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BORDER DISPUTES: TRESPASS TO CHATTELS ON THE INTERNET

RICHARD WARNER*

The emergence of the vast informational ecosystem we call cyberspace is an event of incalculable importance in the history of human liberty. The diversity and vibrancy of this "never-ending worldwide conversation" continues to astonish and amaze those who spend time there. . . . Having brought this thing into being, how do we keep it alive and growing . . . ? What's the plan?¹

DAVID Post's question is a good one. His answer calls, not for *the* plan, but for "a multitude of plans from among which individuals can choose," and he contends that "'the market,' and not action by the global collective, is most likely to bring that plenitude to us."² Post is arguing against Lawrence Lessig, who contends that "[p]olitics and collective decisionmaking, not the invisible hand, will give us a cyberspace where [fundamental democratic] values are protected."³ Of course, neither Post nor Lessig sees the market-versus-government choice as all-or-nothing. The debate is about the appropriate proportion of each.⁴

* Associate Professor, Chicago-Kent College of Law. I thank Harold Krent and Christopher Leslie for comments on earlier drafts, and I owe thanks to Graeme Dinwoodie, Christopher Leslie, Henry Perritt, Jr., Ron Staudt and Margaret Stewart for helpful comments on earlier drafts. I presented a draft at a Chicago-Kent Faculty Roundtable and I gratefully acknowledge the generous assistance and encouragement of my colleagues. Finally, I thank the Marshal D. Ewell fund for its financial support.

1. David G. Post, *What Larry Doesn't Get: Code, Law and Liberty in Cyberspace*, 52 STAN. L. REV. 1439, 1439 (2000).

2. *Id.* at 1440.

3. *Id.* This is Post's summary of Lessig's position, but it is accurate. See generally Lawrence Lessig, *The Zones of Cyberspace*, 48 STAN. L. REV. 1403 (1996) [hereinafter Lessig, *The Zones of Cyberspace*] (discussing differences between regulating communities in real space and regulating them in cyberspace); see also LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 20 (1999) [hereinafter LESSIG, CODE AND OTHER LAWS OF CYBERSPACE].

4. See, e.g., Post, *supra* note 1, at 1459 ("The truth, inevitably if somewhat anti-climatically, lies somewhere between the rather more extreme positions to which rhetoric often confines us. Just as Lessig recognizes the need for constraints on collective power, the conscientious libertarian recognizes that there are times when collective action is required to promote the common welfare . . ."). Radin and Wagner make the same point: "We ought to be talking about the details of good mixtures, rather than debating top-down 'versus' bottom-up." Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace*, 73 CHI.-KENT L. REV. 1295, 1298 (1998). The terms "top-down" and "bottom-up" refer to "Hayek's stylized distinction between bottom-up and top-down ordering. . . . Cyberlibertarians identify Hayek's top-down central planning

The debate could not sensibly be about anything else. At a minimum, market participants have to know who is entitled to exchange what; an ex ante distribution of entitlements is a prerequisite of market ordering.⁵ Moreover, in any sufficiently complex society, laws—not non-legal norms—play a critical role in defining entitlements. The ordering of commerce in complex societies is always a mix of government regulation and market forces. What is the right mix for e-commerce, and what are the legal boundaries within which e-commerce should be free to operate?

These questions lie at the heart of the controversy over whether the traditional doctrine of trespass to chattels should apply to the Internet.⁶ The current focal point of the controversy is *eBay, Inc. v. Bidder's Edge, Inc.*,⁷ which employs the doctrine to assert a website owner's right to pro-

with state-backed law and his bottom-up private ordering with regimes of non-legal customary norms." *Id.* at 1297.

5. See, e.g., Julie E. Cohen, Lochner in Cyberspace: *The New Economic Orthodoxy of "Rights Management"*, 97 MICH. L. REV. 462, 492 (1998) ("Market ordering and government oversight are complementary, not mutually exclusive, choices. Market ordering presupposes some ex ante distribution of entitlements."); Mark A. Lemley, *The Law and Economics of Internet Norms*, 73 CHI.-KENT L. REV. 1257, 1259 (1998) (discussing need for initial distribution of entitlements). Lemley notes that "the common goal of these quasi-private ordering advocates is to decentralize governance and return control to the people—at least, the people who write the contracts." *Id.* Note that an "initial distribution of entitlements" is a bare minimum. Complex market interactions require a good deal more. Government regulation is an essential feature of the complex markets that typify the economy of virtually any industrialized nation.

6. See generally *Thrifty-Tel, Inc. v. Bezenek*, 46 Cal. App. 4th 1559 (1996) (applying trespass to chattels to web for first time). In *Bezenek*, two teenagers committed trespass to chattels when they hacked into the equipment of a long-distance telephone provider. See *id.* at 1563. The doctrine was applied again to unsolicited e-mail. See *CompuServe, Inc. v. Cyber Promotions, Inc.*, 962 F. Supp. 1015, 1020-23 (S.D. Ohio 1997) (holding that sending unsolicited bulk e-mail constituted trespass to chattels). Burk notes that "[t]he reasoning of *CompuServe* has since been adopted wholesale without additional analysis in several suits by other Internet service providers" Dan L. Burk, *The Trouble with Trespass*, 4 J. SMALL & EMERGING BUS. L. 27, 31 (1998).

7. 100 F. Supp. 2d 1058 (N.D. Cal. 2000). *eBay* extends the application of trespass to chattel beyond the spam e-mail situations to cases of systematic search of a website by "spiders," or software "robots," that automates the search process. See *eBay*, 100 F. Supp. 2d at 1060 n.2 ("Programs that recursively query other computers over the Internet in order to obtain a significant amount of information are referred to in the pleadings by various names, including software robots, robots, spiders and web crawlers."); see also *Register.com, Inc. v. Verio, Inc.*, 126 F. Supp. 2d 238, 250-51 (S.D.N.Y. 2000) (adopting *eBay* approach). The *eBay* ruling sparked an immediate, sharply critical academic response in the form of an Amicus Brief authored by twenty-eight law professors in support of Bidder's Edge's appeal of the ruling. See Brief of Amici Curiae Reed Elsevier, Inc. et al. at I.C n.13, *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200). Prior to the *eBay* ruling, Burk launched a sustained attack on the idea of applying trespass to chattels to websites. See generally Burk, *supra* note 6, at 53-54 (arguing for new theory of digital nuisance as mechanism for balancing competing interests). The main targets of Burk's attack were the courts' rulings in *Bezenek* and *CompuServe*. See *id.* at 28-31 (discussing each court's application of trespass to chat-

hibit access to the website.⁸ The ruling protects a business' interest in controlling access to its premises.⁹ The protection provided, however, is potentially so broad that it threatens another critical interest: the interest of all Internet users in low-cost, worldwide communication and unimpeded access to information. Low-cost communication and open access to information have been, and continue to be, critical to the rapid growth and vitality of both the Internet and e-commerce.¹⁰ This Article examines how to balance these competing interests and demonstrates that trespass to chattels provides an appropriate doctrinal setting in which to engage in such balancing.

tels); see also Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 121 (1999) (proposing that "self-help" is promoted by unclear rules governing entitlements).

8. See *eBay*, 100 F. Supp. 2d at 1069-72 (indicating that electronic signals sent by Bidder's Edge to retrieve information from eBay's computer system are sufficiently tangible to support trespass cause of action).

9. See *id.* at 1073 (enjoining preliminarily Bidder's Edge from accessing eBay's computer systems by use of any automated querying program without eBay's written authorization).

10. See *infra* Section I.C. Many have noted the key role of low-cost communication and open access to information to the development of the Internet. See, e.g., Henry H. Perritt, Jr., *Economic and Other Barriers to Electronic Commerce*, 21 U. PA. J. INT'L ECON. L. 563, 564 (2000) ("Consumers can shop worldwide for little more than one thousand dollars for a personal computer and ten to twenty dollars per month for Internet service."); Patricia Buckley, *The Emerging Digital Economy II: Electronic Commerce in the Digital Economy* ("Both the new Internet-based companies and the traditional producers of goods and services are transforming their business processes into e-commerce processes in an effort to lower costs, improve customer service, and increase productivity."), at <http://www.ecommerce.gov/ede/chapter1.html> (last visited Aug. 27, 2001); Paul Taylor, *Reaping the Rewards of IT Growth: The Digital Revolution Is Bringing About Huge Worldwide Economic and Social Changes, Which Will Enhance Job Creation and Transformation and Change the Way in Which Business Is Conducted*, FINANCIAL TIMES (London), Sept. 1, 1999, at 1 ("It is revolutioni[z]ing our access to information and the way we communicate . . ."). All of these articles emphasize the remarkably rapid growth of the Internet. See, e.g., Taylor, *supra*, at 1 ("The pace of change has accelerated markedly since the mid-1990s when the Internet began to be exploited commercially, emerging as the driving force for a new economic revolution."). The low cost of communication of and access to information is the reason for this rapid growth. See Sherman Fridman, *Internet Fuels Record American Economic Growth*, NEWSBYTES ("For example: it now costs an airline issuing an electronic ticket about a tenth the amount when travel agents were involved in the process."), Mar. 27, 2000, at http://www.info-sec.com/commerce/00/commerce_032700a_j.shtml (last visited Oct. 1, 2001). Effross makes a similar point:

A major "selling point" of the World Wide Web is its ability to offer a "virtual storefront" to anyone, from an individual to a multinational corporation, with a product to market. Commercially available software packages enable even those computer users who are not versed in the intricacies of programming to create customized Websites quickly and at a relatively low cost.

Walter A. Effross, *The Legal Architecture of Virtual Stores: World Wide Websites and the Uniform Commercial Code*, 34 SAN DIEGO L. REV. 1263, 1266-68 (1997).

One may wonder about the wisdom of employing trespass to chattels in the Internet context. E-commerce and the Internet are late twentieth and early twenty-first century phenomena. The legal doctrine of trespass to chattels evolved in a much older and very different economic and technological setting.¹¹ Applying the doctrine to the Internet carries the danger that courts will invoke a traditional, and possibly inappropriate, property right in ways that interfere with the Internet's life-blood—low-cost communication and unimpeded access to information. Hence the question: Should an owner of a website be allowed to invoke trespass to chattels to prevent access to the website? Does this property law doctrine adequately frame the problem so that the interests of businesses and users can be balanced?

This Article argues that it does—provided that an adequate understanding of the contemporary technological and economic context guides the doctrine's application. The argument turns in part on a standard point in law and economics: that granting a business the right to exclude others facilitates the negotiation of license agreements that transfer access rights to the party that values them most highly.¹² Section I examines a brick-and-mortar business' right to exclude others from its premises and argues that we should use trespass to chattels to extend almost the same right to web businesses.¹³ Sections II, III and IV distinguish three types of relationships that may hold between web businesses and argue, in each case, for a particular balancing of a business' interest in controlling access against the general interest in low-cost communication and unimpeded access to information.¹⁴ The interest balancing identifies when we should and should not grant a website a right to exclude others. The key here is identifying when granting the right will promote desirable license agreements and when it will not. Section II begins the task of distinguishing the three relationships by analyzing the relationship between eBay and Bidder's Edge.¹⁵ The section concludes with a definition of the first type of relationship.¹⁶ Against this background, Sections III and IV define the two remaining relationships.¹⁷ Sections V and VI argue that we can use trespass to chattels as the doctrinal framework in which we can legally implement the balancing of interests delineated in Sections II, III and IV.¹⁸

11. See generally STUART M. SPEISER ET AL., *THE AMERICAN LAW OF TORTS* § 23.23 (1990) (discussing origin of trespass to chattels doctrine).

12. See generally Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972) (applying approach which integrates economics with legal subject areas such as Property and Torts); R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960) (discussing actions of business firms having harmful effects on others).

13. See *infra* notes 19-38 and accompanying text.

14. See *infra* notes 39-107 and accompanying text.

15. See *infra* notes 39-58 and accompanying text.

16. See *infra* notes 59-79 and accompanying text.

17. See *infra* notes 80-107 and accompanying text.

18. See *infra* notes 107-50 and accompanying text.

I. CONTROLLING ACCESS: BRICK-AND-MORTAR VERSUS THE INTERNET

The ultimate conclusion of this Article is that trespass to chattels should be used to give web businesses almost the same right to control access to its place of business that a brick-and-mortar business enjoys. The “almost” is important. The special nature of the Internet context justifies crucial limitations. The right that a brick-and-mortar business has to control access to its premises is considered first.

A. *Brick-and-Mortar Control Over Access*

The doctrines of trespass to land and trespass to chattels provide a brick-and-mortar business with a broad right to control access to its real and personal property.¹⁹ Constitutional limitations and antitrust laws constrain this right in a variety of ways.²⁰ The constitutional concerns center around discrimination and the rights of free speech and free association. The paramount importance of individual freedom motivates and explains the constitutional concerns, and the importance of individual freedom also provides a powerful rationale for conferring a right to exclude. Individuals not only have the moral right to speak and to associate with whom they please, they also have (within limits) the moral right not to speak and to avoid association.²¹ This concern with individual freedom lies at the very heart of democratic political organization and provides a powerful reason to give a web business the same control over access that a brick-and-mortar business enjoys. In a liberal democracy, citizens have, within constitutional limits, a broad right—even in business—to determine with whom they associate and speak.

There is also an economic reason for recognizing a right to exclude. A commitment to a free market economy is a commitment to letting market participants decide what, when and with whom they buy and sell.

19. See Maureen A. O'Rourke, *Property Rights and Competition on the Internet: In Search of an Appropriate Analogy*, 16 BERKELEY TECH. L.J. 561, 565 (2001) (citing *Culhane v. State*, 668 S.W.2d 24 (Ark. 1984)) (“In the conventional retail context, the real property right to exclude includes the right to ban those who would gather comparison-shopping data from entering a retail establishment, and to remove them from the premises once the owner detects their activity.”). In *Culhane v. State*, the Arkansas Supreme Court ruled that the criminal trespass statute was the correct statute to use in the context of comparison shopping. See 668 S.W.2d 24, 25-27 (Ark. 1984) (holding that specific criminal trespass statute involved is constitutional); see also *Mosher v. Cook United, Inc.*, 405 N.E.2d 720, 720-22 (Ohio 1980) (applying criminal trespass statute to comparison shoppers).

20. See O'Rourke, *supra* note 19, at 604-09 (discussing possible antitrust violations by eBay). The Department of Justice's antitrust division began a preliminary investigation of eBay around February 2000. See Carolyn Koo, *Justice Department Investigating eBay* (Feb. 4, 2000) (noting that Justice Department spokesman confirmed investigation), at http://www.thestreet.com/_yahoo/brknews/internet/877181.html (last visited Aug. 27, 2001).

21. See *Wooley v. Maynard*, 430 U.S. 705, 714 (1977) (“The right to speak and the right to refrain from speaking are complementary components of the broader concept of ‘individual freedom of mind’.”).

Other things being equal, letting market participants decide these questions is more efficient than taking the decision out of their hands.²² Property rights play an essential role in placing market decisions in the hands of market participants. Not only do they define who is entitled to exchange what, they also enable sellers to control with whom they share business resources and to whom they will sell—as well as where, when and how they do so.

The political and economic considerations argue strongly for extending to a web business—with crucial qualifications—the same right to exclude that a brick-and-mortar business enjoys. The logical way to achieve this is through the doctrine of trespass to chattels. Access to a place of business on the Internet, such as a commercial website, is mediated by electronic access to a piece of personal property: the server on which the website resides. To recognize a right to control access to the server is to recognize a right to control access to the website.²³

22. See ARTHUR M. OKUN, EQUALITY AND EFFICIENCY: THE BIG TRADEOFF 50 (1975) (summarizing efficiency claims). In this classic, Okun states:

The case for the efficiency of capitalism rests on the theory of the “invisible hand,” which Adam Smith first set forth two centuries ago. Through the market, greed is harnessed to serve social purposes in an impersonal and seemingly automatic way. A competitive market transmits signals to producers that reflect the values of consumers. If the manufacture and distribution of a new product is profitable, the benefits it provides to buyers necessarily exceed the costs of production. And these costs in turn measure the value of the other outputs that are sacrificed by using labor and capital to make the new product. Thus, profitability channels resources into more productive uses and pulls them away from less productive ones. The producer has the incentive to make what consumers want and to make it in the least costly way. Nobody is asked to evaluate what is good for the system or for the society; if he merely pursues his own economic self-interest, he will automatically serve the social welfare.

Id.

23. I. Trotter Hardy, *The Ancient Doctrine of Trespass to Websites*, 1996 J. ONLINE L. art. 7, ¶¶ 2-57 (arguing for application of trespass to land to websites), at http://www.wm.edu/law/publications/jol/95_96/hardy.html (last visited Nov. 3, 2001); see also Susan M. Ballentine, Note, *Computer Network Trespasses: Solving New Problems with Old Solutions*, 57 WASH. & LEE L. REV. 209, 216 n.47 (2000) (explaining importance of operation of server's computer system). Hardy's approach requires regarding a website as property on which one can trespass in the way one can trespass on land. See Hardy, *supra*, ¶¶ 19-52 (summarizing four key theories). O'Rourke also sees the issue of trespass on the Internet as turning partly on whether we regard websites as analogous to land. See Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, 82 MINN. L. REV. 609, 640 (1998) (“If a website is considered property, the question arises as to the scope of the owner's right to exclude others from accessing it by linking.”). Hardy adds that the “notion that a cause of action for ‘trespass to web sites’ should exist as a means of enforcing control over access to web sites may seem strange. But many things about the Web are strange.” Hardy, *supra*, ¶ 53. Strange or not, application of the doctrine of trespass to land is not necessary once we realize that access to the website is mediated by access to the server. The server is a paradigmatic, traditional example of a chattel, an item of personal property.

To recognize this right is not, however, to recognize an unqualified right to exclude others from the website. To the contrary, recognizing a right to control access provides a framework for balancing business and user interests. Such balancing is typical of property rights:

All property rights systems teeter between the protection of two sometimes conflicting interests: the right of the property right holder to exclude others, and the right of third parties to access the property. . . . [P]roperty right systems often place limitations on the right to exclude when the right to access is more important.²⁴

In the Internet context, limitations on a website owner's right to exclude are appropriate when the right to access the website is more important. Key features of the Internet, features to which this Article refers when arguing that a right of access should prevail over a right to exclude, are considered next.

B. A Brief Sketch of the Internet

The Internet is a dynamic network that is rapidly increasing in extent and complexity. Low-cost access to the Internet fuels its rapid expansion. A modest fee allows one to communicate by e-mail, search the Internet and create and maintain a website.²⁵ The Internet—or, more properly, the World Wide Web²⁶—is an array of millions of individual websites offer-

24. Shubha Ghosh, *The Morphing of Property Rules and Liability Rules: An Intellectual Property Optimist Examines Article 9 and Bankruptcy*, 8 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 99, 104 (1997). Burk emphasizes the same point:

The structure of entitlements in real property is not, and never has been, characterized by packets of complete and well-defined rights; real property entails not simply a clear right to exclude, *as in the case of trespass*, but a host of less determinate rights under the law of easements, takings, nuisance, possessory interests, adverse possession, and the like.

Burk, *supra* note 7, at 126 (1999) (emphasis added). Burk may be right about traditional applications of trespass to chattels, but this Article argues for an extension of that doctrine that balances competing concerns.

25. See Perritt, *supra* note 10, at 564 (stating that declining prices for basic components of networked computing has lowered economic barriers to entry for merchants and consumers). Nevertheless, creating and maintaining a commercial website can involve considerable expense. For example, WebHouse Club (a price-line.com initiative) spent \$360 million dollars, at a rate of \$1 million per day, in a failing attempt to sell consumer goods online at deep discounts. See Steve Mott, *Trial By Fire*, BUSINESS 2.0, Dec. 26, 2000, at 78, 78 (stating that WebHouse Club was wild, impulsive \$360 million experiment). A properly designed and managed web business, however, offers advantages that more than justify the investment. See generally PHILIP EVANS & THOMAS S. WURSTER, BLOWN TO BITS: HOW THE ECONOMICS OF INFORMATION TRANSFORMS STRATEGY (2000) (offering strategic perspective on how to apply new economics to old businesses).

26. We need not distinguish between the World Wide Web and the Internet, although they are different. The World Wide Web is the graphical, multimedia part of the Internet. See Encyclopedia Britannica, *World Wide Web (WWW)* (defining World Wide Web as leading information retrieval service of the Internet), at <http://>

ing information, communication and interaction. It caters to virtually every interest, from the profound to the trivial, the laudable to the reprehensible. Links tie these millions of sites together in a complex web.²⁷ A link functions like a messenger service delivering information to one's computer on demand:

[W]hen a user clicks on a link, the user's computer sends a request to the server on which the desired document resides. That computer decides whether or not to respond favorably to the query. It honors the request by sending a copy of the document to the user's computer, while the original remains on its server. In other words, the user who clicks on a link starts a chain of events that uses resources of both his or her own system and those of the linked system.²⁸

Linking is an excellent example of the benefits of low-cost communication. Links proliferate in part because creating a link is easy and has negligible cost—all one needs is the linked-to website's address.²⁹ Ever-increasing numbers of links weave an ever-more complex web of millions upon millions of links.

The Internet is "alive" with automated search programs executing a continuous sweep and indexing its results on specialized search engine websites in vast, searchable databases of links. Search engines thrive on unimpeded access to information. This search-engine-indexing function is:

critical to the effective use of the Internet. The Internet has multiple sources of information at the back end (hundreds of millions of Web pages), but only one means of accessing that

/www.britannica.com/eb/article?eu=2517&tocid=0&query=world%20wide%20web (last visited Nov. 3, 2001). The Internet includes non-web functions such as e-mail and the file transfer protocol. See Encyclopedia Britannica, *Internet* (defining Internet as network connecting many computer networks based on a common addressing system and communications protocol), at <http://www.britannica.com/eb/article?eu=1460&tocid=0&query=internet> (last visited Sept. 3, 2001).

27. See O'Rourke, *supra* note 23, at 630-34 (describing linking of web). Linking is the essence of the Web. See *id.* at 615-19 (noting that World Wide Web's basic function is to link information together). O'Rourke, also notes that:

[t]he web uses software that allows one document to link to and access another, and so on, despite the fact that the documents may reside on different machines in physically remote locations. The dispersion of data that is the Internet is thus largely overcome by the web's ability to link related information in a manner transparent to the user. This has helped to make the Internet into a medium of mass communication and a vast commercial market place.

Id. at 611.

28. O'Rourke, *supra* note 19, at 569.

29. See, e.g., Microsoft Office, *Microsoft FrontPage* (advertising that Microsoft's FrontPage program makes link matter of only few minutes work), at <http://www.microsoft.com/frontpage> (last visited Sept. 3, 2001).

information at the front end (the consumer's computer screen). Further, the Internet is a medium where information transmission is predominantly of the 'pull' type: servers on the Internet are passive and do not deliver information to a consumer's computer unless that information is requested. Unless consumers have reliable means to search through the immense number of passive servers quickly, easily and independently, many consumers will not be able to find the information that would be most useful to them. To provide impartial, accurate and timely information, search engines, shop bots, and other data tools must access and centralize information that already exists on other web servers, but which is too distributed to be of practical use to the consumer who may not be sophisticated enough to locate all of the information herself.³⁰

The linked, search-engine-indexed Internet has changed and continues to change communication, culture and commerce.³¹ The important role of linking and searching will be a critical factor in the analyses that follow. Commercial websites are places of business on the Internet. Determining when such a business should have the right to exclude others from its website is discussed next.

C. *The Broader Boundary Issue*

Whether to grant a right to exclude from a website is a special—but central and important—case of the more general issue of where and how to draw boundaries in cyberspace. An adequate answer is necessary for the Internet to continue to evolve. As Lawrence Lessig states:

The present architecture of cyberspace is changing. If there is one animating idea behind the kinds of reforms pursued both in the social and economic spheres in cyberspace, it is the idea to increase the sophistication of the architecture in cyberspace, to facilitate boundaries It is the movement to bring zoning to cyberspace.³²

As the Internet evolves, boundary-drawing issues will become ever more critical. Consider Bill Gates' vision of the future of the Internet.

30. Brief of Amici Curiae Reed Elsevier, Inc. et al. at I.B n.7, eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200).

31. See generally BILL GATES, THE ROAD AHEAD (1995) (discussing impact of Internet).

32. Lessig, *The Zones of Cyberspace*, *supra* note 3, at 1408-09. Although Lessig emphasizes the role of technological boundaries, he acknowledges the role of legal prohibitions as well. See *id.* at 1407-08 (discussing how community regulates itself by internalizing norms that state sets).

Gates envisions an Internet that has transformed itself "into more than a medium that simply presents static information."³³ He predicts that:

[i]nstead of being made up of isolated islands where the user often provides the only integration, [the next generation Internet] must enable constellations of computers, intelligent devices and web-based services to collaborate seamlessly At the core of this transformation is Extensible Markup Language, or XML. . . . The effect of this technological lingua franca . . . will be far-reaching. XML "unlocks" data so that it can be organized, programmed, edited, and exchanged with other sites, applications, and devices. In effect, it turns every web page into a programmable mini-data-base XML enables different websites to share all kinds of data without having to use the same computer language or software application. Individual websites can collaborate to provide a variety of web-based services that can interact intelligently with each other. And information can more easily move from one device to another.³⁴

Gates also emphasizes that, on an Internet where information can be so easily shared, control over access will be critical. The future Internet "must offer individuals complete control over how and when and what information is delivered to them, and allow them to protect their privacy and security by controlling who has access to their personal information."³⁵

There is no easy answer to how to achieve such control. Dan Burk notes that "[d]igital communications media challenge our established notions of boundary. In the relatively short time since the Internet exploded into public consciousness, no aspect of this medium has so captured the attention of courts and commentators as its capacity to erode barriers."³⁶ Burk is not thinking merely of political barriers. He emphasizes that as "it [has] challenged other notions of boundary, the Internet similarly challenges the boundaries demarcating rights in property."³⁷ The *eBay* court's application of trespass to chattels to websites poses this challenge in the sharpest way. eBay wants to control access to its website by competitor auction sites that systematically search its website to extract information from it.³⁸ Was the *eBay* court correct when it asserted that eBay has a legal right to exclude others from its site?

33. Bill Gates, *Now for an Intelligent Internet*, THE ECONOMIST: THE WORLD IN 2001 121, 121 (2000).

34. *Id.*

35. *Id.*

36. Burk, *supra* note 7, at 121-22.

37. *Id.* at 122.

38. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1073 (N.D. Cal. 2000) (holding that competitor auction site could not access eBay's computer systems by use of any automated querying program without eBay's written permission). The information in question is purely factual (about products and prices)

II. THE E-COMMERCE CONTEXT

An adequate evaluation of the *eBay* ruling requires an understanding of the e-commerce context of the *eBay/Bidder's Edge* dispute.³⁹ Having such an understanding avoids a danger identified by Shubha Ghosh. Ghosh finds "a presumption in the literature that real property models apply to [c]yberspace"⁴⁰ He complains that "this presumption ignores the varied sets of relationships that exist in [c]yberspace."⁴¹ Ghosh also complains that the presumption "ignores that information differs from [physical property], both in use and in value."⁴² Far from ignoring the "varied relationships," this Article lays down legal boundaries that track the varied e-commerce relationships. The *eBay/Bidder's Edge* dispute illustrates the first of three relationships on which this Article focuses. A sketch of the factual background of that dispute is provided next.

A. *Factual Background*

eBay is an auction website on which sellers list items for sale, and prospective buyers post bids and track the status of auctions.⁴³ eBay is by far the largest of hundreds of similar sites.⁴⁴ The large number of auction sites creates a dilemma for buyers: should a buyer search only one, or just a few, websites and settle for the best combination of price and quality the limited search reveals? Or, is a broader search worth the extra effort?

Bidder's Edge solves this dilemma. Bidder's Edge allows a buyer to perform a single search on its website that yields a list of all relevant items for sale on over one hundred other auction websites.⁴⁵ The list includes prices and product descriptions, and each item in the list is linked to the

and, in the United States, factual information compiled in a database is not protected by copyright. See *Ticketmaster Corp. v. Tickets.com, Inc.*, No. 99-CV-7654, 2000 WL 1887522, at *3 (C.D. Cal. Aug. 10, 2000) ("The primary star in the copyright sky for this case is that purely factual information may not be copyrighted.").

39. See O'Rourke, *supra* note 19, at 566 (emphasizing that "the law needs a framework informed by competitive concerns to help define property rights on the Internet appropriately").

40. Shubha Ghosh, *Gray Markets in Cyberspace*, 7 J. INTELL. PROP. L. 1, 19 (1999).

41. *Id.*

42. *Id.* at 20.

43. See *eBay, Company Overview* (describing business of eBay), at <http://pages.ebay.com/community/aboutebay/overview/index.html> (last visited Nov. 3, 2001).

44. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1060-62 (N.D. Cal. 2000) (discussing how eBay is giant among this multitude). The *eBay* court notes that "eBay currently has over 7 million registered users. Over 400,000 new items are added to the site every day. Every minute, 600 bids are placed on almost 3 million items. Users currently perform, on average, 10 million searches per day on eBay's database. Bidding for and sales of items are continuously ongoing in millions of separate auctions." *Id.* at 1060 (citations omitted).

45. See *id.* at 1061-62 (describing function of Bidder's Edge). More accurately, it used to solve the dilemma. See Steven Bonisteel, *ebay-Battling Bidder's Edge Folds Auction-Search Business* (stating that Bidder's Edge shut down its website on

web page offering that item for sale on the relevant auction website.⁴⁶ Bidder's Edge accomplishes this feat through software robots—often called “spiders”—that automatically search the Internet for relevant information.⁴⁷ Bidder's Edge's spiders “crawl the web,” searching auction sites, extracting their information, and storing it in a database.⁴⁸ Bidder's Edge answers user queries submitted on its site by searching this database and returning the relevant information.⁴⁹

Bidder's Edge is an example of a “secondary aggregator,” an information aggregator that obtains its information from “primary aggregators” of information such as eBay.⁵⁰ A website qualifies as a primary aggregator if it does not (for the most part) obtain the information it presents from other websites.⁵¹ Secondary aggregators tend to arise where information relevant to an important decision is dispersed over a large number of primary sites. As Philip Evans and Thomas Wurster predicted in 1997, “[t]he sheer breadth of choice available to potential customers [on the Internet] will create the need for third parties to play the role of navigator or facilitating agent.”⁵²

A number of secondary aggregators surround eBay.⁵³ In 1999, eBay launched an offensive against them, claiming they were trespassing on its

February 21, 2001, due to market and financial conditions), at <http://www.newsbytes.com/news/01/162050.html> (last visited Nov. 3, 2001).

46. See BidXS, *Welcome to the Web's Top Auction Search-Engine*, at <http://www.bidxs.com/be/> (last visited Nov. 3, 2001) (describing business of company).

47. See *eBay*, 100 F. Supp. 2d at 1060-61 (explaining use of software robots).

48. See *id.* at 1061-62 (describing Bidder's Edge's search technique). For a general discussion of robot searches, see Martijn Koster, *Robots in the Web: Threat or Treat?* [hereinafter Koster, *Robots in the Web*] (explaining advantages and disadvantages of robot search technology), at <http://sunhe.jinr.dubna.su/docs/httpd/robots/threat-or-treat.html> (last visited Nov. 3, 2001). Many sites attempt to control robot searches through the use of a robot.txt file. See *id.* (discussing use of robots). As the *eBay* court explains:

The eBay site employs “robot exclusion headers.” A robot exclusion header is a message, sent to computers programmed to detect and respond to such headers, that eBay does not permit unauthorized robotic activity. Programmers who wish to comply with the Robot Exclusion Standard design their robots to read a particular data file, “robots.txt,” and to comply with the control directives it contains.

eBay, 100 F. Supp. 2d at 1061 (citations omitted). For a discussion of robot exclusion standards and techniques, see Martijn Koster, *A Standard for Robot Exclusion* (describing method and giving examples of robot exclusion), at <http://info.webcrawler.com/mak/projects/robots/norobots.html> (last visited Nov. 3, 2001). For a discussion of whether the robot.txt file creates a contract between the site and its searchers, see *infra* note 58.

49. See *eBay*, 100 F. Supp. 2d at 1061-62 (describing spider information retrieval performed by Bidder's Edge).

50. See *id.* at 1061-62 (explaining function of Bidder's Edge).

51. See *id.* at 1060 (explaining eBay website).

52. Philip B. Evans & Thomas S. Wurster, *Strategy and the New Economics of Information*, HARV. BUS. REV., Sept.–Oct. 1997, at 71, 77.

53. See, e.g., *AuctionWatch* (claiming to be “[t]he Complete Auction Management Solution”), at <http://www.auctionwatch.com> (last visited Nov. 3, 2001);

site and insisting that they enter into license agreements if they wished to search eBay's website.⁵⁴ Bidder's Edge took center stage in this battle in early September 1999 when eBay informed Bidder's Edge that the latter was not authorized to systematically search its site.⁵⁵ When Bidder's Edge continued to do so, eBay filed suit and requested a preliminary injunction prohibiting the searches.⁵⁶ In granting the injunction, the District Court for the Northern District of California held that eBay was likely to prevail on the merits with regard to its trespass to chattels claim.⁵⁷ Indeed, the court's discussion made clear that the court was convinced that the searches constituted a trespass to chattels.⁵⁸

To evaluate the *eBay* ruling, we need to distinguish three types of relationships between primary and secondary aggregators: (1) network-effect relationships, (2) no-network-effect relationships and (3) linking relationships. Trespass claims are generally plausible in the first type of relationship, while plausible only in certain instances of the second and third.

B. *The First Relationship: Network-Effect*

The network-effect relationship is defined by a dilemma that secondary aggregators can pose for primary aggregators. The eBay/Bidder's Edge dispute illustrates this predicament.⁵⁹ The first horn of the dilemma

ChannelAdvisor, *Company: Overview* (claiming to aggregate "the majority of all on-line dynamic-pricing transactions"), at <http://merchant.channeladvisor.com/ca/company.asp> (last visited Nov. 3, 2001); BidXS, *Company Info* (claiming to aggregate data from up to 300 auction sites), at <http://www.bidxs.com/aboutus.html> (last visited Nov. 3, 2001).

54. See *eBay Plays Any Angle It Can*, THE STANDARD, Nov. 3, 1999 (discussing eBay's attempt to "squash" two dozen web companies that search auction sites), available at http://www.thestandard.com/article_print/0,1153,7379,00.html (last visited Aug. 29, 2001).

55. See *eBay*, 100 F. Supp. 2d at 1062 (stating that eBay requested that Bidder's Edge cease posting eBay auction listings on its site).

56. See *id.* at 1063 (stating that eBay moved for preliminary injunction based on nine causes of action including trespass, false advertising, federal and state trademark dilution, computer fraud and abuse, unfair competition, misappropriation, interference with prospective economic advantage and unjust enrichment).

57. See *id.* at 1070 (holding that eBay was likely to prove (1) that Bidder's Edge intentionally and without authorization interfered with eBay's possessory interest in its computer system, and (2) this unauthorized use proximately resulted in damage to eBay).

58. See *id.* at 1069 (stating that eBay sufficiently proved trespass claim). This Article concerns whether the court was correct in finding a trespass to chattels. See *id.* at 1071-72 (holding that Bidder's Edge trespassed on a portion of eBay's property). This Article does not address the issue of whether the court was correct to grant the preliminary injunction. See *id.* at 1073 (granting preliminary injunction).

59. See generally *id.* (discussing trespass problems of secondary aggregators). This discussion is not offered as a series of empirical claims about the actual thoughts and intentions of the corporate officers of eBay and Bidder's Edge. My goal is to characterize the way in which primary and secondary aggregators compete. eBay and Bidder's Edge illustrate the relevant competitive relationship whether or not their corporate leadership realizes that they compete in this way.

is that it is essential that the seller-provided information on eBay's website be easily accessible and searchable by the public. The second horn is that eBay needs to prevent access by its competitors to that very same information.

1. *The First Horn of the Dilemma: Easy Access by the Public*

The information on eBay's website is accessible by the public in the sense that anyone can search the website. To buy or sell items on eBay, one must register and obtain a login username and password before conducting a transaction.⁶⁰ Merely searching the items for sale, however, requires neither registration nor login.⁶¹ Easy accessibility by the public

60. See eBay, *Welcome New Users* (stating that in order to buy or sell on eBay, new users need to register), at <http://pages.ebay.com/help/basics/n-learn-more.html?ssPageName=HP1LearnMore> (last visited Nov. 3, 2001).

61. See eBay, at <http://www.eBay.com> (allowing search access to all users) (last visited Nov. 3, 2001). Open access is why contract law will not provide adequate protection for eBay against secondary aggregators. Consider that when one registers on eBay, one agrees not to search the site for commercial purposes:

Users of the eBay site must register and agree to the eBay User Agreement. Users agree to the seven page User Agreement by clicking on an "I Accept" button located at the end of the User Agreement. The current version of the User Agreement prohibits the use of "any robot, spider, other automatic device, or manual process to monitor or copy our web pages or the content contained herein without our prior expressed written permission."

eBay, 100 F. Supp. 2d at 1060 (citations omitted). Bidder's Edge never registered as a user and hence never clicked the "I Accept" button to agree to the terms of the User Agreement. See *id.* (discussing Bidder's Edge's search of eBay site). Is there an argument that Bidder's Edge is bound by the User Agreement even though it did not click the button?

The argument would be that the User Agreement was an offer that Bidder's Edge accepted, not by clicking on the button, rather by the act of searching the site. See *Register.com, Inc. v. Verio, Inc.*, 126 F. Supp. 2d 238, 240-45 (S.D.N.Y. 2000) (arguing for this position). There are three difficulties, however, with this argument. First, although the User Agreement is accessible through a hyperlink on the home page, this presentation may not be sufficient to constitute an offer. See eBay, at <http://www.eBay.com> (linking to User Agreement) (last visited Aug. 29, 2001). "An offer is the manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it." RESTATEMENT (SECOND) OF CONTRACTS § 24 (1981).

In some cases, it will be dubious at best that there is a relevant "manifestation of willingness to enter into a bargain." *Id.* Register.com's Service Agreement, for example, is accessible through a hyperlink in extremely small print at the very bottom of its home page. See *Register.com*, at <http://www.register.com> (linking to service agreement) (last visited Aug. 29, 2001). As one scrolls down the home page, all text and graphic content ends long before one gets to the Service Agreement hyperlink. See *id.* (linking inconspicuously to service agreement). One has to scroll down through approximately six inches of blank screen. See *id.* (linking inconspicuously to service agreement). Is this "manifestation" sufficient?

Second, even if the agreement behind the hyperlink can be characterized as an offer, it is unclear exactly what counts as acceptance. "Acceptance of an offer is a manifestation of assent to the terms thereof made by the offeree in manner invited or required by the offer." RESTATEMENT (SECOND) OF CONTRACTS § 50. When

means that potential buyers anywhere in the world can search the eBay website to see what items are for sale; get an impression of how the website works; and make a decision about whether registering to buy over the site is worth the effort. Buyers need to bear the transaction costs of registration only as an immediate prelude to an initial purchase. Similarly, sellers can search the website and see how it works before making the decision to register. The alternative would be to require registration before any—or, any substantial—use of the website. This would pose the registration decision to potential buyers and sellers before they had sufficient information to determine if the benefits of registration were worth the transaction costs.⁶² Registration on eBay would be discouraged. eBay would suffer because maintaining, and preferably expanding, its base of seven million registered users is critical to eBay's success.

Buyers and sellers are attracted to the size of eBay's website. Buyers search eBay because its size increases the likelihood that they will find the items they are looking for. Sellers post items on the eBay website because its size attracts the most buyers and increases the likelihood that their items will be bought. As a result, eBay benefits from a feedback mechanism that takes the form of a *self-perpetuating expectation*: a large number of buyers and sellers expect a large number of buyers and sellers to use eBay, which means that a large number of buyers and sellers will continue to *expect* a large number of buyers and sellers to use eBay, which means that a large number of buyers and sellers will continue to use eBay, which means that a large number of buyers and sellers will continue to *expect* a large number of buyers and sellers to use eBay, which means that This is a "positive network effect." eBay is a vast network of buyers and sellers, and, as the economists Carl Shapiro and Hal Varian observe:

does this happen? Not when one first accesses the site's home page because one has not yet had a chance to read the offer. So how much does one have to do to accept the offer? Whether offer and acceptance has occurred in these cases will always be a factual question that differs with the facts of each case. See, e.g., *id.* cmt. c, illus. 1-3 (showing how facts affect offer and acceptance).

Third, even if there has been offer and acceptance, only certain terms may be enforceable. See *id.* § 211 cmt. c (discussing assent to unknown terms). In cases of this sort, "[w]here the other party has reason to believe that the party manifesting such assent would not do so if he knew that the writing contained a particular term, the term is not part of the agreement." *Id.* § 211. In addition, the unconscionability doctrine may further limit the enforceable terms. See *id.* at cmt. c (discussing review of unfair terms). The claim that a robot.txt file creates a contract faces the same difficulties. See Koster, *Standard for Robot Exclusion*, *supra* note 48, at <http://sunhe.jinr.dubna.su/docs/httpd/robots/threat-or-treat.html> (discussing use of robot.txt files). Even if the file constitutes an offer, what counts as acceptance? Does a robot that does not read the file accept its terms if it searches the site? Even if an offer is accepted, enforceable terms may be limited.

62. There is no fee for registering on eBay. See eBay, *Services Overview*, at <http://pages.ebay.com/services/index.html> (noting free registration) (last visited Nov. 3, 2001). The only "cost" is the time and effort of filling out the registration forms.

[n]etworks have a fundamental economic characteristic: the value of connecting to a network depends on the number of *other* people already connected to it. This fundamental value proposition goes under many names: network effects, network externalities, and demand-side economies of scale. They all refer to essentially the same point: other things being equal, it's better to be connected to a bigger network than a smaller one.⁶³

Reflection on eBay's positive network effect illuminates eBay's need to control competitor access to the very same information that it makes accessible to the public. The second horn of the dilemma is examined next.

2. *The Second Horn of the Dilemma: Preventing Access by Competitors*

The key to understanding the second horn of the dilemma is to emphasize that a positive network effect is a matter of expectations. Buyers and sellers use eBay because they *expect* other buyers and sellers to use it. In general, a positive network effect takes hold as the network reaches "critical mass."⁶⁴ As Shapiro and Varian remark about Microsoft, "Microsoft's dominance is based on [network effects]. Microsoft's customers value its operating systems *because* they are widely used, the de facto industry standard. Rival operating systems just don't have the critical mass to pose much of a threat."⁶⁵ Unlike an operating system, however, it was easy for Bidder's Edge to obtain critical mass. Bidder's Edge accom-

63. CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 174-75 (1999) (emphasis in original).

64. See eBay (providing dozens of user options on home page), at <http://www.eBay.com> (last visited Nov. 3, 2001). Size is not the only issue. eBay offers a variety of other features to attract and retain users, such as escrow accounts and dispute resolution procedures. See eBay, *Professional Services* (providing professional service bidding forum), at http://pages.ebay.com/professional_services/index.html (last visited Nov. 3, 2001). Despite the importance of size, smaller auction sites can enjoy a positive network effect of their own, even in the shadow of the giant eBay. See, e.g., <http://www.acubid.com> (last visited Sept. 4, 2001) (targeting buyers and sellers interested in antiques and collectibles). AcuBid could benefit from its own network effect while co-existing with the much larger eBay. If enough buyers and sellers find AcuBid's focus on antiques and collectibles attractive, a sufficiently large group of buyers and sellers would use the site because they expect a sufficiently large group to use the site. If the group were large enough, AcuBid.com could prosper in eBay's shadow under this self-perpetuating phenomenon. If the group of buyers is too small, however, sellers will desert the site. Conversely, if the group of sellers is too small, buyers will desert the site.

65. SHAPIRO & VARIAN, *supra* note 63, at 180. Shapiro and Varian are not clear about the fact that the network effect is a matter of expectations. See generally *id.* at 173-225 (highlighting relationship between value and expectations in success of network). They do treat positive feedback as a matter of expectations, noting that: Positive feedback should not be confused with growth as such. Yes, if a technology is on a roll, as is the Internet today, positive feedback translates into rapid growth: success feeds on itself. This is a *virtuous cycle*. But . . . if your product is seen as failing, those very perceptions can spell doom. The Apple Macintosh is now in this danger zone The virtuous cycle of growth can easily change to a *vicious cycle* of collapse.

plished this by aggregating auction information from primary auction websites. This strategy allowed Bidder's Edge to list more items for sale than any of the primary auction websites it searched.⁶⁶ The *eBay* court noted that "[a]s of March 2000, the BE [Bidder's Edge] website contained information on more than five million items being auctioned on more than one hundred auction sites."⁶⁷ Around that time, eBay had only three million items for sale.⁶⁸

The danger to eBay is that Bidder's Edge's critical mass might undermine eBay's positive network effect. Critical mass is not sufficient on its own to undercut the effect. A network effect consists of a self-perpetuating expectation, and Bidder's Edge undermines this expectation only if it attracts buyers to its website in preference to eBay. Size is but one feature that attracts buyers, but there are others, including reliability, website de-

Id. at 176 (emphasis in original). The point is that perceptions that a product will not be used turn into an expectation that it will not be used. If this expectation leads a large enough number not to use it, this will feed the expectation that it will not be used—and so on.

Some of the confusion between size and expectations in network effects is due to misunderstandings of Metcalfe's Law. See Charles Boyd, *Why Strategy Must Change* (stating that "the usefulness, or utility, of a network equals the square of the numbers of users"), at <http://www.mgt.smu.edu/mgt487/mgtissue/newstrat/metcalfe.htm> (last visited Nov. 3, 2001). Metcalfe's Law states that: in a network of n people, each person has the opportunity to communicate with $n - 1$ others, and the total number of possible connections of others to others is $n \times (n - 1)$. See Alun Anderson, *The Mathematics of Mayhem*, *THE ECONOMIST: THE WORLD IN 2001*, at 117, 117 (2000) (describing Metcalfe's Law).

Some take Metcalfe's Law to measure the value of a network to its users. See, e.g., *id.* (stating that value of network increases dramatically as number of users grows). The theory is that larger networks are more valuable to users than smaller networks, therefore Metcalfe's Law provides an approximation of a network's value. See *id.* (explaining rationale for Metcalfe's Law).

The problem is that the law provides only a very rough approximation at best. Suppose that 100 new websites appear on the web. Also suppose that these sites have absolutely no useful information on them and no one visits them. Where n is the number of computers connected to the web, under Metcalfe's Law, adding the websites increases the value from $n \times (n - 1)$ to $(n + 100) \times (n + 100 - 1)$. Clearly, however, there is no increase in value with the addition of these websites.

Value seems to depend on the relevancy of information in addition to size. A relevancy argument assumes that the value of a network derives partly from the uses to which it can be put. As a result, Metcalfe's Law offers only a rough approximation of the value of a network since a network's "use-value" depends on many factors other than size.

66. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1062-63 (N.D. Cal. 2000) (discussing how Bidder's Edge took auction items from all other auction site databases). Bidder's Edge cannot hope to achieve sufficient "critical mass" without searching eBay. See *id.* ("Approximately 69% of the auction items contained in the [Bidder's Edge] database are from auctions hosted on eBay. . . . [Bidder's Edge] estimates that it would lose one-third of its users if it ceased to cover the eBay auctions.").

67. *Id.* at 1061.

68. See *id.* at 1060 (discussing how every minute 600 bids are placed on three million items).

sign and ease of use.⁶⁹ For our immediate purposes, suppose that Bidder's Edge did succeed in attracting a large number of buyers who used it in preference to any other auction website. Then, the more buyers who searched through the Bidder's Edge website, the less it would matter where a seller listed items for sale. No matter where they were listed, they would appear on Bidder's Edge. This was indeed Bidder's Edge's goal, as James Carney, President of Bidder's Edge explains:

At Bidder's Edge . . . , our strategy is to offer an auction portal site that makes it quick and easy for users to simultaneously search hundreds of auction sites. . . . This approach not only benefits users but also auction site operators. Consider how difficult it would be for the owner of a small auction site to compete with eBay Through Bidder's Edge their goods are exposed to potential customers who otherwise might never have discovered them. Almost anyone can establish an auction site. The bigger issue is, how do you get buyers to show up? . . . We're now attracting 450,000 to 500,000 unique users a month, and that number will continue to grow.⁷⁰

Success in this endeavor for Bidder's Edge would greatly weaken the positive network effect motive of sellers to use eBay, the motive provided by the sellers' expectation that a large number of buyers are also using it. If buyers switch to searching through a secondary aggregator, this motive weakens and might disappear entirely. Sellers care less about which primary auction website they use if they are confident that the items they post for sale will also show up on a secondary aggregator's website.

This eventuality would be most unwelcome by eBay because its revenue derives from the transaction fees it charges its sellers.⁷¹ Therefore, a significant decrease in the number of sellers means a significant decrease in eBay's revenue. Suppose that most buyers searched through one or

69. See *Bidder's Edge Expands Coverage of Person-to-Person Online Auctions to Offer More Items for Bid Than Any Site on the Web*, BUS. WIRE, June 29, 1999 (discussing Bidder's Edge expansion on Internet), at http://www.findarticles.com/cf_0/m0EIN/1999_June_29/55018201/p1/article.jhtml (last visited Nov. 3, 2001). Bidder's Edge did not rely on size alone to attract buyers. See *id.* (explaining Bidder's Edge strategy). In 1999, Bidder's Edge introduced a variety of enhancements to its site to attract buyers. See *id.* ("To further the online auction user's experience, Bidder's Edge has greatly enhanced its site, adding capabilities and features to make it even easier for users to shop at online auctions and find great deals."). James Carney, President of Bidder's Edge, was explicit about the plan. He states, "The tools we offer users keep them coming back. Besides our keyword search function, we offer time-saving micro-category searches Plus, we can notify users when specific items come up for auction" James Carney, *Bidder's Edge*, at <http://www.avce.com/files/editorial/200004/odds.html> (last visited Nov. 3, 2001).

70. See Carney, *supra* note 69, at <http://www.avce.com/files/editorial/200004/odds.html>.

71. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1060 (N.D. Cal. 2000).

more secondary aggregators. As a result, sellers did not congregate on eBay but instead spread themselves more evenly over the hundreds of primary auction websites. Being included in a secondary aggregator's searches would be critical to the success of a primary auction website, and it might even be possible for secondary aggregators to extract fees from primary websites for including them in their searches. This critical aspect of the network effect explains why eBay has a strong motive to control access by its competitors to the very same information it makes accessible to the public.

This dilemma—the need to control competitor access to publicly accessible information—typifies the first relationship between primary and secondary aggregators, the network-effect relationship. This relationship is defined by two features. First, to attract users to its website, the primary aggregator makes at least some information on its site easily accessible and searchable by the public. Second, exploiting the fact that the primary's information is searchable by the public, the secondary aggregator threatens to undermine a network effect on which the primary aggregator significantly depends for revenue.

C. *Balancing the Competing Interests*

How, in the network-effect relationship, should we balance a business' interest in controlling access to its website against the Internet user's interest in unimpeded access to information? An Internet business should be granted the same right that a brick-and-mortar business already enjoys: the right to control access to its place of business. The political and economic considerations that justify that right in the brick-and-mortar world also justify it on the Internet, and the logical doctrine to use to extend this right to a web business is trespass to chattels.⁷²

In network-effect relationships, the political and economic rationales are particularly strong. In such a relationship, the secondary aggregator enters the primary aggregator's place of business and makes use of a crucial business resource, the primary aggregator's server, for the secondary aggregator's own purpose and profit. Moreover, in doing so the secondary aggregator threatens to undercut the network effect on which the primary aggregator depends for revenue. Telling the primary aggregator it has no right to exclude such a secondary aggregator is difficult to square with the paramount importance of individual freedom in democratic political organization. Individuals have, within broad limits, the moral right not to speak and not to associate.⁷³

72. See *supra* Section I.B.

73. The point is not that a constitutional right comes into play to such cases. See *Pac. Gas & Elec. Co. v. Pub. Utils. Comm'n of Cal.*, 475 U.S. 1, 32-33 (1986) (recognizing right not to speak or not to associate with speech of others). The point is that the considerations about freedom that motivate and justify recognizing the constitutional right also support recognizing and implementing a broad moral right not to speak and not to associate.

Denying the primary the right to exclude is also difficult to square with concern over economic efficiency. Other things being equal, it is efficient to let the primary aggregator decide if and how it will allocate its business resources. In the brick-and-mortar world, we put such decisions in the hands of individual market participants, and we do so partly to promote economic efficiency. These considerations comprise a compelling case for favoring a business' interest in controlling access to its website over the Internet user's interest in unimpeded access to information. Nevertheless, countervailing considerations may exist which support the user's interest.

In an Amicus Brief filed in support of Bidder's Edge's appeal of the ruling, twenty-eight law professors also argue that considerations of economic efficiency weigh in favor of the user's interest:

[t]he Internet has the potential to approximate a perfectly efficient information medium because it can allow buyers to cheaply, easily and quickly search for items they want. The role of product comparison sites is critical to the benefits of e-commerce. Aggregators of product and price information, "shop-bots" that automate the price comparison process, and comparative product evaluators like Consumer Reports and its online equivalents all reduce transactions costs and improve competition by helping consumers get fast, cheap and accurate information about products and prices. Because search technology and so-called "shop-bots" allow consumers to automatically identify goods in which they are interested, the match between sellers and buyers can approach perfect efficiency. In addition, because there is no practical limit to the number of servers that can be connected to the Internet, there is virtually no upper limit to the number of sellers that can participate in what promises to be near-perfect competition.⁷⁴

The Bidder's Edge supporters advance important considerations which will be addressed in more detail later when the two other primary/secondary aggregator relationships are examined. These considerations should not, however, be given too much weight in the context of the network-effect relationship.

To see why, consider whether giving market participants the ability to decide with whom they wish to share resources is more economically efficient than limiting their decisional power by denying them the right to exclude others from access to those resources. Denying primaries the right to exclude secondaries could seriously undermine the incentive to enter into a web business that depends on a positive network effect for revenue. Suppose that someone is deciding whether to make a major in-

74. Brief of Amici Curiae Reed Elsevier, Inc. et al. at I.A, eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200).

vestment in a commercial website and in the marketing needed to draw attention to it. Suppose that the business depends on achieving a critical mass of information that will support a stable network effect. The incentive to invest in the website might be seriously diminished if the information it presents can be extracted and used at will by a secondary aggregator. If investors as primary aggregators lack sufficient incentive, secondary aggregators will not thrive, and Internet users will not enjoy the benefits of either one.

On the other hand, granting primaries the right to exclude secondaries hardly means that secondary aggregators will vanish from network-effect relationships; rather, secondaries will have to try to negotiate license agreements with the primaries that allow the latter to search the former's website. In network-effect relationships, a primary aggregator could reasonably enter into a license agreement with a secondary aggregator if the compensation from the license outweighed the risk of an undermined network effect. In assessing this risk, it is important to remember that critical mass alone is not sufficient to undercut a positive network effect. The secondary aggregator must undermine the *expectation* that large numbers of people will use the primary aggregator's website.⁷⁵ A primary aggregator confident about the attractive power of its website may not worry greatly that secondary aggregators will destroy its network effect. Indeed, eBay evidently finds that it can strike an acceptable balance between risk and competition as it readily enters into license agreements with secondary aggregators.⁷⁶

In the network-effect relationship, granting primary aggregators the right to exclude secondary aggregators promotes the license agreement solution. Lack of clarity about such legal rights may well have contributed to the collapse of the eBay/Bidder's Edge negotiations into litigation.⁷⁷ Suppose that both parties had been clear that eBay had the legal right to exclude Bidder's Edge from its website. Bidder's Edge might well have avoided fruitless litigation by entering into a license agreement with eBay or by simply ceasing to search eBay's website. On the other hand, had it been clear to the parties that Bidder's Edge had the right to search eBay's website, eBay might simply have acquiesced to the searches; or, eBay might have offered Bidder's Edge a license agreement in which eBay agreed to assist Bidder's Edge in its searching of eBay in exchange for compensation

75. For a discussion of how Bidder's Edge undertook to draw eBay users to its site, see *supra* note 69 and accompanying text.

76. Brief of Amici Curiae Reed Elsevier, Inc. et al. at 13, *eBay* (No. C-99-21200). eBay's licensing agreements with secondary aggregators "limit[] the amount and nature of crawling activity on [its] site." *eBay*, 100 F. Supp. 2d at 1068. Bidder's Edge and eBay had a license agreement at one time, and they were negotiating another when the negotiations broke and litigation ensued. See *id.* at 1062 (noting that Bidder's Edge had ninety-day preliminary license while negotiations were taking place).

77. See *eBay*, 100 F. Supp. 2d at 1062-63 (describing events leading to litigation).

or other concessions. These types of agreements are not uncommon for eBay; it actively seeks agreements with just this character.⁷⁸

Clarity about the legal framework facilitates negotiation and minimizes costly litigation. Such clarity is particularly important in the primary/secondary aggregator context because conflict in that context is inevitable. Secondary aggregators have a strong market motive to search primary aggregators as that is their business. Primary aggregators will inevitably see themselves, whether correctly or incorrectly, as threatened by a secondary aggregator and therefore will want to prevent or control the secondary aggregator's access. Lack of clarity in such a context of conflict breeds failed negotiations and can lead to costly litigation.⁷⁹

This Article next examines no-network-effect relationships, where the secondary aggregator does not threaten to undermine the primary aggregator's network effect. The balancing calculus in no-network-effect relationships, however, is more complex. In some instances of this type of relationship, a business's interest in controlling access to its website outweighs the Internet user's interest in unimpeded access to information. In other instances, the opposite is true. It is worth emphasizing that the "network-effect" and "no-network-effect" relationships are not mutually exclusive. The same secondary aggregator may have a network-effect relationship with one primary aggregator and simultaneously have a no-network-effect relationship with another.

III. NO-NETWORK-EFFECT RELATIONSHIPS

A secondary aggregator cannot undercut a network effect that does not exist. Not all primary aggregators depend on a network effect for revenue, so secondary aggregators searching the primary site do not imperil any such effect. As Shapiro and Varian emphasize, not "*all* information

78. See Ed Ritchie, *eBay Opens Up* (discussing new program enabling outsider to access eBay's technology), at <http://www.auctionwatch.com/awdaily/dailynews/november00/1-112000.html> (last visited Nov. 3, 2001).

79. See generally Ira Magaziner, *At the Crossroads of Law and Technology: Keynote Address, October 23, 1999*, 33 *LOV. L.A. L. REV.* 1165, 1173 (2000) (discussing how Internet is transforming society). This counts heavily against a "hands-off, let the industry regulate itself" approach. See *id.* (discussing regulatory strategy). The point is important because self-regulation is particularly attractive in regard to the Internet. See *id.* (explaining regulatory strategy in regard to Internet). Commenting on the Clinton administration's approach to the Internet, Magaziner remarks that "one very important principle underlying our Internet policy was . . . to first let private sector leadership try to develop the rules of the road for the Internet through private collective action." *Id.* Magaziner's main reason for this policy is that "the Internet moves too quickly. The processes of government are too slow, inflexible, and bureaucratic to effectively address Internet changes. And we were afraid that the development of the Internet would be strangled by excessive government regulation and intrusion." *Id.* at 1169. In the case of primary and secondary aggregators, clarifying the legal framework would not be "excessive government regulation and intrusion." *Id.* at 1173. On the contrary, such regulation would provide a workable foundation for the negotiation of license agreements. See *id.*

infrastructure markets are dominated by the forces of positive feedback.”⁸⁰ The Sports Authority, an online retailer of sporting goods, is an example of a primary aggregator that does not depend on a positive network effect for revenue. Consider how The Sports Authority describes itself:

Thesportsauthority.com—Name your sport. We have all the name-brand gear you need at the best prices. When you’re looking for a wide variety of top-brand sports gear, go to the source and cash in on the best prices. With our 150% lowest online price guarantee and 24-hour customer service, you can be sure of getting the best quality on the Internet.⁸¹

The appeal is not “Buy from us because you can expect a lot of other people to buy from us,” but rather “Buy from us because we offer the best combination of price, quality and service.” The Sports Authority depends on the success of this appeal for its revenue, in contrast to eBay’s dependence on the operation of a network effect.⁸² Like eBay, however, The Sports Authority website is publicly accessible and searchable. The website puts as few barriers as possible in the way of a potential customer that wants to take a look at its store. Secondary aggregators can exploit this fact to search the site. A secondary aggregator that searches The Sports Authority may very well assist the retailer in presenting and profiting from its offer of the best combination of price, quality and service.

Consider, for example, the relationship between The Sports Authority and mySimon. mySimon is a secondary aggregator that collects and presents information from other online stores.⁸³ For example, searching mySimon for “Swiss army knife” yields a long list of online stores, including The Sports Authority, that offer that item. mySimon almost certainly benefits The Sports Authority.⁸⁴ Suppose a buyer using mySimon is inter-

80. SHAPIRO & VARIAN, *supra* note 63, at 186 (emphasis in original).

81. mySimon, *Merchant Profile: The Sports Authority*, at <http://www.mysimon.com/merchant/index.jhtml?pgid=profile&c=campingaccessories&v=1&mcid=6189> (last visited Nov. 3, 2001).

82. Having said this, we should note that The Sports Authority could profit from a network effect. People do sometimes go to commercial establishments because they expect others to go there. See generally Renee Dye, *The Buzz on Buzz*, HARV. BUS. REV., Nov.-Dec. 2000, at 139 (discussing effect of word-of-mouth promotion). Restaurants are an obvious example. Pastis is a French bistro in New York City’s trendy meat market district where people go to “see and be seen.” That is, they go because they expect others—the right others—to go. Such network effects can be very important. See *id.* (“People like to share their experiences with one another—the restaurant where they ate lunch, the movie they saw over the weekend, the computer they just bought—and when those experiences are favorable, the recommendations can snowball, resulting in runaway success.”).

83. See mySimon, *Backgrounder*, at <http://www.mysimon.com/corporate/index.jhtml?pgid=backgrounder> (last visited Nov. 3, 2001) (explaining that mySimon is “the largest comparison shopping site on the Web”).

84. This is not to deny that The Sports Authority could profit from a “fad-type” network effect. The point is that mySimon would not undercut such an ef-

ested in Swiss army knives. Without the mySimon search, the buyer might not know that The Sports Authority carries Swiss army knives or might be unaware of the existence of The Sports Authority at all. mySimon provides a very inexpensive way for The Sports Authority to reach potential customers when compared to the costs of traditional marketing methods.⁸⁵ Traditional marketing methods are expensive and of limited effectiveness. A potential buyer might not get information about Swiss army knives for any number of reasons. For example, those knives may not have been mentioned in a particular brochure, advertisement or telemarketing sales pitch; the buyer may not have been included in the mailing list; or the buyer may not buy the magazines in which the company advertises. mySimon helps The Sports Authority get its price/quality/service message to potential customers. The potential downside for primary aggregators is stiffer competition on price. mySimon's search service makes it easier for buyers to comparison shop. The Sports Authority is not the only store which sells Swiss army knives—a search on mySimon returns many such stores among which a buyer can compare prices.⁸⁶

A. *Defining the No-Network-Effect Relationship*

mySimon and The Sports Authority illustrate a no-network-effect relationship between a secondary and a primary aggregator. Two conditions define this relationship. First, to attract users to its website, the primary aggregator makes (at least some) information on its site easily accessible to the public. Second, exploiting that fact, the secondary aggregator searches the primary but does not thereby undercut a positive network effect on which the primary depends for revenue.

Search engines are important examples of no-network-relationships. Search engines are secondary aggregators.⁸⁷ They use spiders to systematically search other websites, extract their information and compile it in a database. For example, when a user asks a search engine to find informa-

fect. On the contrary, it would be just one more route by which people could find their way to The Sports Authority.

85. Richard Wise & David Morrison, *Beyond the Exchange: The Future of B2B*, HARV. BUS. REV., Nov.-Dec. 2000, at 88 (stating that information aggregators provide "access to more buyers with only a modest increase in marketing cost").

86. See *id.* (noting that potential downside for primary aggregators of online shopping services is stiffer competition on price). Of course, The Sports Authority, with its "110% lowest online price guarantee," has chosen to compete on price. See *The Sports Authority* (guaranteeing customers receive 110% of difference between purchase price and lower price of identical item found on-line), at <http://www.thesportsauthority.com/home/index.jsp> (providing link to guarantee) (last visited Nov. 3, 2001).

87. These examples of shopping services and search engines should not lead us to overlook the fact that these are not the only secondary aggregators that stand in no-network-effect relationships to primary aggregators. Such relationships are extremely common. Any website that compiles a list of links to other sites qualifies as a secondary aggregator. The website need not compile the list through the automated efforts of a spider. The list might be manually compiled instead.

tion about Swiss army knives, it searches the database and produces a list of links to web pages containing (hopefully) relevant information. Unlike a shopping service such as mySimon, a search engine will list not only stores selling Swiss army knives, but also will list web pages containing any kind of information about such knives. Shopping services are really just search engines with a more specialized purpose. Like shopping services, search engines can benefit the primary sites they search by leading users to them. This is an essential e-commerce function—a store cannot sell to buyers that cannot find it.

Not all no-network-effect relationships, however, are as benign as the one between mySimon and The Sports Authority. They spread out along a continuum, a fact that is critical to balancing the business' interest in controlling access against the user's interest in unimpeded access. At one end of the continuum are the relationships that benefit the primary site. At the other end are the cases in which the secondary harms the primary. The relationship between meta-search engines and ordinary search engines illustrate the "harm" end of this continuum. A meta-search engine is a secondary aggregator that searches the databases of other search engines, which play the role of primary aggregators relative to the meta-search engine.⁸⁸ Like other secondary aggregators, meta-search engines periodically send spiders to the primary search sites, extract their data, and store it in its own database. They offer the typical advantage of a secondary aggregator: a single search on a meta-search engine aggregates results from multiple search engines in one convenient place.

Meta-search engines, however, can also pose a serious revenue threat to primary search engines.⁸⁹ When Internet users employ meta-search engines in preference to regular search engines, traffic on the latter sites decreases, and decreased traffic can translate into lost revenue. Whether and to what extent a meta-search engine poses such a threat to a regular search engine is a complex factual question, and it would not be unreason-

88. See Dogpile, *Press Center* ("[A] metasearch engine . . . leverages more than a dozen of the Web's leading search engines . . ."), at <http://www.dogpile.com/t/help/press> (last visited Nov. 3, 2001).

89. The threat is not that a positive network effect will be undercut. Search engine revenue comes from advertising and from fees for preferential listings. See Google, *Google Inc. Business Overview* (explaining business model of search engine Google), at http://www.google.com/press/overview_biz.html (last visited Nov. 3, 2001). Sites sometimes pay a fee to be listed above their competitors in the list of hyperlinks the search engine produces in response to a user query. See Google, *Advertising Programs* (explaining ways in which advertisers can do business with search engine), at <http://www.google.com/ads/index.html> (last visited Nov. 3, 2001). A network effect may appear to be operating here because sites do advertise on search engines and pay for preferential listings in part because they expect a large number of people to use the search engine. To achieve a network effect, however, a large number of users have to use the search engine because they expect a large number of websites to advertise there. In reality, users use search engines because they believe the search engines will lead them to what they are looking for.

able to expect no-network-effect relationships between meta-search engines and regular search engines to spread out over the full extent of the benefit/harm continuum. This Article, however, is not concerned with the statistical distribution of relationships over this continuum; rather, it focuses on how the law should respond to relationships along this continuum however those relationships happen to be distributed.

B. *Balancing the Competing Interests*

1. *Balancing at the Benefit End of the Continuum*

In no-network-effect relationships at the benefit end of the continuum, a right to exclude secondary aggregators should not be granted to primary aggregators. A comparison with network-effect relationships reveals the reason. In both network-effect and no-network-effect relationships, the secondary aggregator uses the primary's business resources for its own commercial purposes. In network-effect relationships, the secondary's actions threaten to undermine a positive network effect that the primary depends on for revenue. In no-network-effect relationships, however, there is no network effect to undermine. In addition, in relationships located toward the benefit end of the continuum, the secondary helps the primary.⁹⁰ Therefore, a minimal invasion of individual freedom is involved in allowing the secondary to search the primary. The primary is not being asked to tolerate a threat from a competitor; rather, it is being asked to benefit from a business ally.

Economic considerations also support denying the primary the right to exclude. In the network-effect relationships, granting the primary a right to exclude was necessary so that it could control a threat to its source of revenue and to promote the formation of license agreements.⁹¹ Such agreements contribute to a market setting for network-effect relationships in which both primary and secondary aggregators can thrive and users can enjoy the benefits of both.⁹² In no-network-effect relationships at the benefit end of the continuum, helping both primaries and secondaries thrive is also the long-run goal. The problem for no-network-effect relationships is that granting a right to exclude may work against realizing this goal. Primary aggregators may use the right to achieve short-run gains through price discrimination that undermine the long-run goal.⁹³ The Amici capture this concern well:

90. For a discussion of the network-effect and no-network-effect relationships, see *supra* notes 59-99 and accompanying text. At the harm end of the continuum, the secondary aggregator reduces the primary's revenue, but not by undercutting a network effect.

91. For a discussion about why granting the primary a right to exclude is necessary to control a threat to its source of revenue, see *supra* notes 72-79 and accompanying text.

92. For a discussion about the beneficial effect of license agreements in network-effect relationships, see *supra* notes 77-78 and accompanying text.

93. See Burk, *supra* note 6, at 51-52 (arguing similar point).

While many companies will want their public pages to appear in search engines, others may not. Alternatively, and more likely, sites may insist upon selective or preferential indexing. Web sites might cut exclusive deals with one search engine, and refuse access to the rest. They may demand preferential treatment from search engines, so that their pages appear above anyone else's. They may want their pages to appear to certain individuals but not others. If the law gives owners of publicly accessible Web sites the power to control searches, it will help create a world in which the price any given consumer finds when she searches for a book or other commodity is a function of what the searched site knows about her age, income, prior buying habits, and the like. This form of sophisticated price discrimination isn't possible if information about prices is freely available. But it is possible if every company on the Web can control the circumstances under which people can search for it.⁹⁴

The worry is that allowing primaries to exclude search engines will greatly reduce the comprehensiveness and effectiveness of the search-engines' index to the vast array of information that is the web.

The point is not that this is *likely* to happen; the point is that there is an adequate justification for foreclosing the *possibility* that it might by not granting primaries a right to exclude. The justification is that a minimal limitation on individual freedom is worth the substantial gain in overall welfare that effective, comprehensive search-engine indexing offers. Without indexing, there is no effective use of the web for any cultural, commercial, political or private end. In no-network-effect relationships at the benefit end of the continuum, the primary does not need the right to defend against any business threat. Its only use would be to allow primaries to dictate to search engines the conditions under which they may conduct their searches. Search engines, however, should operate largely unimpeded in order to promote e-commerce market.

This treatment of no-network-effect relationships on the Internet has parallels in the brick-and-mortar world. We often require those who benefit from a network to tolerate infringements of their freedom in order to maintain the character and quality of the network. Zoning ordinances, for example, control the distribution of commercial and residential real estate along the network of public roads and walkways, and such ordinances sometime define when and where a business may open its doors to the

[A] particular use of the local system may be locally objectionable but globally beneficial, as is arguable in the case for . . . AuctionWatch's aggregate search service. . . . eBay may hope to avoid the local burden of networking by legal exclusion, but this eventually will result in suppression of the positive externalities of networking.

Id. at 52.

94. Brief of Amici Curiae Reed Elsevier, Inc. et al. at I.B, eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200).

public.⁹⁵ Another example: cities that experience significant snowfall typically require businesses to shovel the snow from the sidewalk in front of their establishment to benefit both the business and the general public. Speed limits similarly illustrate the point. They regulate the flow of traffic over the transportation network and benefit the general public by making the roads safer and reducing energy consumption and environmental pollution.

2. *Balancing at the Harm End of the Continuum*

Consider a relationship between a meta-search engine and a regular search engine where the activities of the former significantly reduce the latter's revenue. The impact on revenue makes this situation similar to a network-effect relationship and, as in such relationships, political and economic considerations make a powerful case for granting the primary the right to exclude the secondary. In both cases, the secondary aggregator enters the primary aggregator's place of business, uses a crucial business resource—the server—for the secondary aggregator's own purposes and profit. In cases at the harm end of the continuum, the secondary's activity also undermines the primary's source of revenue by reducing traffic on its website.

As in network-effect cases, insisting that a primary aggregator tolerate such an invasion conflicts with our right not to speak and not to associate.⁹⁶ Economic considerations also support granting the primary the right to exclude the secondary. It is efficient to allow primary aggregators to decide if and how they will allocate their business resources, all other things being equal. At the harm end of no-network-effect relationships, there is no worry that the primary will use the right to exclude to achieve short-run gains that undermine the interest in low-cost communication and unimpeded access to information. Just the opposite: effective, comprehensive search engines are critical to advancing that interest, and granting search engines the right to exclude meta-search engines allows search engines to protect themselves from the meta-search engine threat.

Allowing search engines to defend themselves does not mean that meta-search engines will disappear. Rather, it means that they will have to negotiate license agreements with regular search engines. Granting search engines the right to exclude promotes the development of sustainable, mutually beneficial business relationships between meta-search engines and regular search engines. Such relationships would ensure that Internet users continue to enjoy the benefits of both types of search engines.

95. See, e.g., *Schad v. Borough of Mount Ephraim*, 452 U.S. 61 (1981) (holding that mechanism enabling customer to watch nude dancing violated ordinance that prohibited nude dancing in borough).

96. For a discussion of how forcing a primary aggregator to tolerate a secondary's invasion conflicts with our negative free speech rights, see *supra* notes 19-21 and accompanying text.

It would be reasonable for a regular search engine to enter such an agreement if the compensation outweighed the risk posed by the meta-search engine, and in assessing the risk, it is important to bear in mind that the comprehensiveness of the search is not the only reason that users choose a search engine. Yahoo!, for example, deliberately limits the amount of information it presents to users so as not to overwhelm them with irrelevant items.⁹⁷ Yahoo! also categorizes the information it presents in ways that other search engines do not.⁹⁸ If a regular search engine is confident in the attractive power of its website, the threat presented by a particular meta-search engine may not be so great as to make a license agreement unacceptable.⁹⁹

3. *Balancing Between the Extremes of Benefit and Harm*

At the harm end of the continuum, the user's interest in low-cost communication and unimpeded access to information outweighs the business' interest in controlling access. At the benefit end, the business' interest prevails. How should these interests be balanced between these extremes? It would be wrong to give a definite answer. Limited experience with e-commerce markets and its enabling technology makes it difficult to determine the right trade-off between individual freedom and economic efficiency. In such a situation, one wants a flexible position that both responds to present needs while retaining the ability to adjust to future developments. The doctrine of trespass to chattels provides just such a tool.

C. *Information Aggregation Versus Linking*

The benefits and harms discussed above derive from information aggregation. It is essential to distinguish information aggregation from linking, and in particular deep linking. A link is a hypertext pointer to a website's home page; a deep link is a link to a page in the interior of a website. For example, if on the mySimon website a buyer clicks on the Swiss army knife offering from The Sports Authority, it connects not to The Sports Authority's home page, but to an interior page where the item can be purchased. Deep linking is ubiquitous, and the reason is obvious: it greatly aids web navigation. If the link was to the home page, the buyer

97. See Yahoo!, *How Does Yahoo! Search Work* (explaining how search engine conducts and presents information), at <http://help.yahoo.com/help/us/ysearch/ysearch-02.html> (last visited Nov. 3, 2001).

98. See Yahoo! (providing numerous categories by which to access information on Internet), at <http://www.yahoo.com> (last visited Nov. 3, 2001).

99. Although Amazon.com is not a search engine, it provides an excellent example of confidence in the attractive power of a website. "Amazon.com has not tried to block the bots, even though customers can use them to find cheaper prices elsewhere on the Web. 'They haven't hurt Amazon materially because Amazon is giving such a great package of services. . . . There are a million things to keep the consumer there.'" Koo, *supra* note 20 (quoting Faye Landes of Thomas Weisel Partners).

following the link would still have to search the website for the knife purchasing page. Such searches can be time-consuming and are not always successful. In addition, many primary sites lack a thorough search function, making a particular piece of information extremely difficult to find. Deep links eliminate navigational nightmares, which is why virtually every secondary aggregator employs them.

Without the navigational benefits of linking, users would still enjoy the benefits and harms that result from information aggregation. Secondary aggregators could still gather and present information acquired from primary websites. mySimon could still produce its list of stores in response to a search for "Swiss army knife." Although the search results would not deep link directly to the purchase pages of the relevant stores' websites, the secondary's information aggregation would still offer primary aggregators an effective, low-cost way to reach potential customers. Similarly for meta-search engines, their information aggregation function would still harm regular search engines if users preferred their more comprehensive aggregation of information to regular search engines' less comprehensive collections.

Linking, as distinct from information aggregation, is the definitive feature of the third relationship between primary and secondary aggregators. Secondary aggregators link in both network-effect and no-network-effect relationships, and linking relationships are not confined to those two categories. Although virtually every website links and deep links, this Article focuses on relationships between primary and secondary aggregators; however, the discussion is generally applicable to any linking relationship.

IV. LINKING RELATIONSHIPS

Linking is an independent source of trespass to chattels claims. Creating the link is not a trespass because the mere creation involves no access to the linked-to site. Access occurs when the link is used, and the use may lead to trespass liability for the link's creator. Consider a non-Internet analogy. Suppose company Y rents factory space from Company X. The space contains a machine that Y would like to use, but, unable to reach a rental agreement with Y for use of the machine, X locks the switch that starts the machine. Jones, a disgruntled, former employee of X, obtains the key to the lock and, without any authorization, unlocks the switch knowing and intending that Y will use the machine, which it does. Jones is liable for trespass to chattels as he intentionally and foreseeably contributed to the unauthorized use of the machine. Links operate the same way. The linking website knowingly and intentionally facilitates access to the linked-to website. If the access is a trespass, the linking site will be liable. Like no-network-effect relationships, linking relationships lie along a harm-benefit continuum, a fact critical to balancing the business' interest in controlling access against the user's interest in unimpeded access.

A. *Balancing at the Benefit End of the Continuum*

The primary aggregator benefits from linking because users can navigate to its website more easily. Search engines, for example, benefit primary aggregators by driving traffic to their websites, and the effectiveness of search engines depends in part on linking. Search engines index the Internet, an activity which requires identifying the location of the indexed information. Just as a book index would be useless if it did not identify what page to find the indexed information, search engines would not be effective without identifying a web page to which the user could connect. Such links typically will be deep links because to link to a home page would often be like a book index entry that simply referred to a whole book instead of a particular page of interest. Search engines' search software—the spiders—also depend on links to create their web indices.¹⁰⁰ Interfering with a secondary's freedom to link will reduce the usefulness and comprehensiveness of the information search engines return.

In linking relationships at the benefit end of the continuum, a primary should not be granted a right to exclude. As in no-network-effect relationships at the benefit end of that continuum, linking relationships which benefit the primary do not necessitate such a right—no threat to the primary's business exists against which the primary must defend. The right could only be used to secure short-run gains which might reduce the navigational benefits of linking. For example, charging fees for linking may reduce the number of links returned in a user search and hence the effectiveness of search engines. Denying the primary the right to exclude forecloses this possibility. A minimal invasion of freedom (the link by the secondary into the primary's site) secures the navigational benefits of linking on the Internet.

B. *Balancing at the Harm End of the Continuum*

Despite its many benefits, linking can harm a website. Even a link to a home page, as opposed to deep link, can have undesirable associative effects. The "Babes on the Web" controversy illustrates this point:

Babes on the Web was a web site consisting of links to the home pages of certain women whose sites included their photographs. The links were accompanied by a desirability rating. When a number of women objected to their inclusion on the Babes on the Web site, the site's operator eventually removed the links to the objecting sites.¹⁰¹

100. See Koster, *A Standard for Robot Exclusion*, *supra* note 48, at <http://sunhe.jinr.dubna.su/docs/httpd/robots/threat-or-treat.html> ("WWW robots (also called wanderers or spiders) are programs that traverse many pages in the World Web by recursively retrieving linked pages.").

101. O'Rourke, *supra* note 23, at 643.

The chief culprit in harmful linking relationships, however, is the deep link, which can harm primary sites in four ways.

First, deep linking bypasses advertising on the primary's home page or on other pages that the user would normally pass through to get to the deep-linked page. This can reduce the effectiveness of the advertising and therefore the price advertisers are willing to pay a website owner to advertise. Second, deep linking can reduce the number of items the primary website sells to a buyer. Buyers shopping for one item and coming across others on the same website may make additional purchases. Deep links reduce cross-selling opportunities because they take the user directly to the page where the item searched for can be purchased. Deep linking also limits opportunities to sell the customer a more expensive item than the one originally searched for. Third, eliminating a buyer's need to navigate through the primary's website from its home page reduces the ability to collect data on website browsing behavior. This data is often crucial both to marketing and to improving site design.

Finally, deep linking can interfere with the user's experience at the primary's website. One of eBay's complaints about Bidder's Edge, which deep-linked into eBay, was that it deprived users of the general experience of eBay.¹⁰² The experience came from navigating the site from home page to purchase page.¹⁰³ This claim is more substantial than it may seem at first. Brick-and-mortar stores strive to offer a particular kind of experience to their customers. Nieman Marcus and Target, for example, offer very different experiences. The buyer experience becomes associated with a business and can become part of the set of customer attitudes and expectations that form a company's brand. "A brand is a distinctive identity that differentiates a relevant, enduring, and credible promise of value associated with a product, service, or organization, and indicates the source of that promise."¹⁰⁴ A successful brand is a considerable business asset; the credible promise of value attracts and retains customers.

At the harm end of the linking relationship continuum, the primary should be granted the right to exclude the secondary. As with relationships at the harm end of the no-network-effect continuum, the secondary in a linking relationship provides access to the primary's place of business for the secondary's own purposes and profit. This activity undermines the primary's ability to do business and interact with its customers as it sees fit, violating its right not to speak and not to associate.

Economically, allowing primary aggregators to decide if and how they will allocate their business resources is efficient. Primaries will not use the right to achieve short-run gains that undermine the user's interest in low-

102. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1065 (N.D. Cal. 2000) (characterizing actions of Bidder's Edge as equivalent of "sending in an army of 100,000 robots a day to check the prices in a competitor's store").

103. See *id.* at 1061 (explaining use of eBay's website).

104. Scott Ward, Larry Light & Jonathan Goldstine, *What High-Tech Managers Need to Know About Brands*, HARV. BUS. REV., July-Aug. 1999, at 85, 88.

cost communication and unimpeded access to information; rather, primary aggregators need the right to exclude to defend against business threats from secondary aggregators. Granting this defense promotes the user's interest in unimpeded access to information because primary businesses have to thrive if they are to exist to be searched by secondary aggregators. Giving primaries the right to exclude means that secondary aggregators will negotiate license agreements with primaries that allow linking. As with no-network-effect relationship at the harm end of that continuum, this promotes the development of sustainable, mutually beneficial linking relationships between primaries and secondaries that ensure that users enjoy the benefits of both.

Dealing with linking relationships that exist in the middle of the benefit-harm continuum presents the same complex factual question as was presented by no-network-effect relationships in the middle of its benefit-harm continuum.¹⁰⁵ A definitive answer to the balancing question is just as elusive for linking relationships because the economic and technological situation is too new, too fluid and too ill-understood. Again, the doctrine of trespass to chattels will provide a framework flexible enough to deal with each case effectively.

C. *Summary of Primary and Secondary Relationships*

Three relationships between primary and secondary aggregators have been distinguished: network-effect; no-network-effect; and linking. This Article has argued for allowing a web business control over access to its place of business in the network-effect relationship and in certain instances of no-network-effect and linking relationships. The remaining doctrinal question concerns whether trespass to chattels provides a framework that, when applied to these relationships, yields the desired consequences.

Burk contends that trespass to chattels fails in this regard. He insists that "the elements of common law trespass to chattels fit poorly in the context of cyberspace,"¹⁰⁶ and that its application is "fraught with unintended and undesirable consequences."¹⁰⁷ This Article argues the opposite—that trespass to chattels is a workable doctrine for addressing control over property in cyberspace. Initially, this argument is presented in the context of network-effect relationships between secondary and primary aggregators. Then, the argument is expanded to show that trespass to chattels works successfully for no-network-effect and linking relationships as well.

105. For a discussion of the complex factual question presented by no-network-effect relationships in the middle of the continuum, see *supra* section III.B.3.

106. Burk, *supra* note 6, at 39.

107. *Id.* at 28.

V. TRESPASS TO CHATTELS IN NETWORK-EFFECT RELATIONSHIPS

Trespass to a chattel occurs when one intentionally “dispossess[es] another of the chattel” or “us[es] or intermeddl[es] with a chattel in the possession of another.”¹⁰⁸ In e-commerce, the relevant portion is “using or intermeddling” with a chattel. The use must invade the possessory rights of the owner.¹⁰⁹ In such cases, one “who commits a trespass to a chattel is subject to liability to the possessor of the chattel if . . . the chattel is impaired as to its condition, quality, or value.”¹¹⁰ Returning to the eBay/Bidder’s Edge dispute, this Article next examines whether Bidder’s Edge intentionally used a chattel in a way that invaded the possessory rights of eBay and impaired the condition, quality or value of the chattel.

A. *Intentional Use of eBay’s Server*

Trespass to chattels requires intentional physical contact with the chattel.¹¹¹ As the eBay court noted, Bidder’s Edge’s searches of eBay’s server satisfy this requirement: “[Bidder’s Edge]’s activities consume at least a portion of plaintiff’s bandwidth and server capacity. Although there is some dispute as to the percentage of queries on eBay’s site for which [Bidder’s Edge] is responsible, [Bidder’s Edge] admits that it sends some 80,000 to 100,000 requests to plaintiff’s computer systems per day.”¹¹²

The claim that electronic access satisfies the physical contact requirement is controversial. Burk challenges this claim. He argues that electronic access is not the kind of contact required by trespass to chattels.¹¹³

108. RESTATEMENT (SECOND) OF TORTS § 217 (1977).

109. *See id.* “In order to prevail on a claim for trespass based on accessing a computer system, the plaintiff must establish . . . [that] defendant intentionally and without authorization interfered with plaintiff’s possessory interest in the computer system” *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1069-70 (N.D. Cal. 2000).

110. RESTATEMENT (SECOND) OF TORTS § 217, cmt. c. Comment c of section 217 explains:

One who commits a trespass to a chattel is subject to liability to the possessor of the chattel if

- (a) he dispossessed the other of the chattel, or
- (b) the chattel is impaired as to its condition, quality, or value, or
- (c) the possessor is deprived of the use of the chattel for a substantial time, or
- (d) bodily harm is caused to the possessor, or harm is caused to some person or thing in which the possessor has a legally protected interest.

Id.

111. *See* RESTATEMENT (SECOND) OF TORTS § 217 cmt. d (defining “intermeddling”).

112. *eBay*, 100 F. Supp. 2d at 1071.

113. *See* Burk, *supra* note 6, at 32-34 (exploring lack of physical contact when dealing with “trespass of electrons”). Burk notes that “trespass to chattels requires some type of physical contact with the chattel.” *Id.* (citing RESTATEMENT (SECOND) OF TORTS §§ 217-218).

Burk focuses primarily on *Thrifty-Tel, Inc. v. Bezenek*,¹¹⁴ a case cited as precedent in *eBay*.¹¹⁵ In *Bezenek*, two teenage boys hacked into a long-distance telephone system and placed a large number of unauthorized calls.¹¹⁶ The California Court of Appeals ruled that electronic access met the physical contact requirement of trespass to chattels.¹¹⁷ The court contended that “the requirement of a tangible intrusion to chattels has been relaxed almost to the point of being discarded.”¹¹⁸ It supported this claim by citing cases in which intrusion by microscopic particles, smoke and other “migrating intangibles” were seen as sufficient to support a trespass claim.¹¹⁹ The *Bezenek* court concluded that “the electronic signals generated by the boys’ activities were sufficiently tangible to support a trespass cause of action.”¹²⁰

Burk complains that the cases the *Bezenek* court cited concerned trespass to land while the conclusion the court reached concerned trespass to chattels.¹²¹ But why should this matter? The court is faced with technology that has created new ways to intrude into new types of chattels. The kind of access for which a long-distance telephone system or a computer server is designed is electronic access. To refuse to count electronic signals as the kind of contact required for trespass to a computer server would be a mistake—one which looked steadfastly back at the past while ignoring our technologically-changing present. The *Bezenek* court took account of both the past and the present. Confronted with a trespass to chattels claim in the novel context of unauthorized electronic access to a long-distance phone system, and lacking trespass to chattels cases on point, the court reasoned by analogy with trespass to land cases to reach its conclusion.¹²² Surely, this is exactly what it should have done.

B. *Invasion of eBay’s Possessory Interest*

To qualify as a trespass to chattels, Bidder’s Edge’s searches must invade eBay’s possessory right. Using a chattel in an unauthorized way is

114. 46 Cal. App. 4th 1559 (1996).

115. See *eBay*, 100 F. Supp. 2d at 1070-71 (discussing relevant tort claim).

116. See *Thrifty-Tel*, 46 Cal. App. 4th at 1563-64 (examining facts of case).

117. See *id.* at 1567 n.6 (concluding that electronic signals are sufficiently tangible to support trespass to chattels claim).

118. *Id.*

119. See *id.* (analogizing trespass by electronic impulses to trespass by invisible particles).

120. *Id.*

121. See Burk, *supra* note 6, at 33 (arguing trespass to land case not applicable to trespass to chattels). “The ‘particulate trespass’ cases relied upon in *Thrifty-Tel* were largely cases in which the owner of real property had been dispossessed of the use of land by contamination.” *Id.* at 33-34.

122. See *Thrifty-Tel*, 46 Cal. App. 4th at 1566-67 (comparing trespass to chattels with conversion). The California Court of Appeals noted that “[a]pparently, no California decision has applied a trespass theory to computer hacking.” *Id.* at 1567 n.7.

sufficient for the invasion of a possessory right.¹²³ The searches would certainly appear to be unauthorized given that eBay explicitly informed Bidder's Edge that it was not authorized to search its server.¹²⁴

The counter-argument is that, by linking its server to the Internet and maintaining a website accessible to the public, eBay had consented to Bidder's Edge's use of its server. As the court stated, "[Bidder's Edge] argues that it cannot trespass eBay's website because the site is publicly accessible."¹²⁵ Talk of implied consent is talk of what a rational, adequately informed person would explicitly consent to under conditions that allow for adequate reflection free from undue influence.¹²⁶ eBay does impliedly consent to access by anyone on the Internet. Indeed, eBay has a compelling business reason to make its site accessible to the public, so if eBay were asked if it consented to access by anyone on the Internet, its answer would certainly be in the affirmative—within broad limits.

The "within broad limits" qualification is crucial. Consent conferred by connecting to the Internet is clearly limited in scope. Commenting on *CompuServe, Inc. v. Cyber Promotions, Inc.*,¹²⁷ in which Cyber Promotions advanced the same implied consent argument, Burk emphasizes that:

CompuServe . . . and others whose machines are connected to the network have in some sense invited public usage of their equipment. But the terms of such an invitation are murky. . . . [I]t seems unlikely that by connecting to the network, CompuServe has opened its facilities to every conceivable use—for example, we would hardly infer that CompuServe's Internet connection constituted an invitation to commit computer crimes on its system . . . by "hacking" its servers to delete data, or to establish a free user account.¹²⁸

The *eBay* court reached the same conclusion as Burk. The court held that Bidder's Edge's searches fell outside the scope of the consent eBay granted to the public, stating that "eBay does not generally permit the type of automated access made by [Bidder's Edge]. In fact, eBay explicitly notifies automated visitors that their access is not permitted."¹²⁹ Moreover,

123. See, e.g., *CompuServe, Inc. v. Cyber Promotions, Inc.*, 962 F. Supp. 1015, 1024 (S.D. Ohio 1997) (citing RESTATEMENT (SECOND) OF TORTS §§ 252, 892(5), 217 cmts. f-g).

124. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1070 (N.D. Cal. 2000) (explaining normal course of business for eBay).

125. *Id.*

126. See RESTATEMENT (SECOND) OF TORTS § 892D cmt. a (defining implied consent in emergency situations as situation where if one "had the opportunity to decide he would certainly consent").

127. 962 F. Supp. 1015 (S.D. Ohio 1997).

128. Burk, *supra* note 6, at 37-38.

129. *eBay*, 100 F. Supp. 2d at 1070. The court further notes that "[e]ven if [Bidder's Edge]'s web crawlers were authorized to make individual queries of eBay's system, [Bidder's Edge]'s web crawlers exceeded the scope of any such con-

even if Bidder's Edge's searches were initially within the scope of eBay's consent, that consent can be and was withdrawn: "eBay repeatedly and explicitly notified [Bidder's Edge] that its use of eBay's computer system was unauthorized. The entire reason [Bidder's Edge] directed its queries through proxy servers was to evade eBay's attempts to stop this unauthorized access."¹³⁰

Despite these considerations, Bidder's Edge's searches still could be deemed authorized if compelling policy considerations warranted it. In fact, however, the policy considerations all incline to support the *eBay* decision. As discussed above, powerful political and economic reasons support giving web businesses the same control over access that brick-and-mortar businesses enjoy, and trespass to chattels is the logical doctrinal framework to use to achieve this goal.¹³¹ Finding Bidder's Edge's searches of eBay to be authorized would be inconsistent with this goal.

C. *Impairment of Condition, Quality or Value of eBay's Computer Systems*

One who commits trespass to chattels is liable if "the chattel is impaired as to its condition, quality, or value."¹³² The *eBay* court found that "eBay is likely to be able to demonstrate that [Bidder's Edge]'s activities have diminished the quality or value of eBay's computer systems."¹³³ The court explained that:

[I]t is undisputed that eBay's server and its capacity are personal property, and that [Bidder's Edge]'s searches use a portion of this property. Even if, as [Bidder's Edge] argues, its searches use only a small amount of eBay's computer system capacity, [Bidder's Edge] has nonetheless deprived eBay of the ability to use that portion of its personal property for its own purposes. The law recognizes no such right to use another's personal property.¹³⁴

The use of eBay's computer capacity is what the court determined to be the relevant reduction in "condition, quality, or value."¹³⁵ Bidder's Edge used it without authorization, thereby reducing the computer capacity available for authorized uses.

sent when they began acting like robots by making repeated queries." *Id.* (citing *City of Amsterdam v. Daniel Goldreyer, Ltd.*, 882 F. Supp. 1273, 1281 (E.D.N.Y. 1995)).

130. *Id.*

131. For a discussion of the political and economic reasons that support giving web businesses same control as brick-and-mortar businesses, see *supra* notes 21-23 and accompanying text.

132. RESTATEMENT (SECOND) OF TORTS § 217 cmt. c (1977).

133. *eBay*, 100 F. Supp. 2d at 1071.

134. *Id.*

135. See *id.* (exploring eBay's claim and likelihood of success against Bidder's Edge).

The *eBay* court's decision provoked a sharply critical academic reaction from Bidder's Edge supporters, who argued that:

[t]he district court effectively vitiated the requirement of injury proximately caused by a trespass. The court rejected every single claim of actual harm that eBay alleged. . . . [T]he court suggested that merely accessing a computer connected to the Internet for a purpose not specifically authorized by the computer necessarily injures eBay by "depriving" it of the right to use that server as it sees fit.¹³⁶

The Bidder's Edge supporters accused the court of relying:

on a principle of "inviolability" of property that has never been the rule for personal property and certainly not for information. As the Restatement (Second) of Torts makes clear, "[t]he interest of a possessor of a chattel in its inviolability, unlike the similar interest of a possessor of land, is not given legal protection by an action for nominal damages for harmless intermeddlings with the chattel. In order that an actor who interferes with another's chattel may be liable, his conduct must affect some other and more important interest of the possessor . . . in the physical condition, quality, or value of the chattel, or if the possessor is deprived of the use of the chattel for a substantial time." No such harm has been found in this case.¹³⁷

The position argued by the supporters of Bidder's Edge should be rejected. Even if Bidder's Edge's searches qualify as merely "harmless intermeddling," there is still a good reason to find a trespass.

The rationale for finding no trespass in the harmless intermeddling cases is the availability and effectiveness of self-help:

one who intentionally intermeddles with another's chattel is subject to liability only if his intermeddling is harmful to the possessor's materially valuable interest in the physical condition, quality, or value of the chattel, or if the possessor is deprived of the use of the chattel for a substantial time, or some other legally protected interest of the possessor is affected *Sufficient legal*

136. Brief of Amici Curiae Reed Elsevier, Inc. et al. at II, *eBay Inc. v. Bidders Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200). Supporters also argue that "[i]n place of evidence of actual injury, the court relied upon its theory of possible future harm should dozens of companies like Bidder's Edge attempt to do the same thing it is doing." *Id.* This confuses the *eBay* court's analysis for trespass to chattels with its analysis for injunctive relief. The court relied on "possible future harm" to argue that eBay faces the kind of irreparable injury required for issuing an injunction. See *eBay*, 100 F. Supp. 2d at 1071 (examining eBay's arguments of harm). It did not rely on "possible future harm" in finding a trespass to chattels.

137. Brief of Amici Curiae Reed Elsevier, Inc. et al. at II, *eBay* (No. C-99-21200) (quoting RESTATEMENT (SECOND) OF TORTS § 218 cmt. e (1977)).

*protection of the possessor's interest in the mere inviolability of his chattel is afforded by his privilege to use reasonable force to protect his possession against even harmless interference.*¹³⁸

Is “sufficient legal protection” of eBay’s interest in the “mere inviolability” of its server afforded by its privilege to use reasonable force to protect it? The eBay/Bidder’s Edge dispute shows why the answer is *no*.

eBay attempted to prevent Bidder’s Edge’s searches by blocking access from IP addresses used by Bidder’s Edge. As the *eBay* court explains:

To enable computers to communicate with each other over the Internet, each is assigned a unique Internet Protocol (“IP”) address. When a computer requests information from another computer over the Internet, the requesting computer must offer its IP address to the responding computer in order to allow a response to be sent. These IP addresses allow the identification of the source of incoming requests. eBay identifies robotic activity on its site by monitoring the number of incoming requests from each particular IP address. Once eBay identifies an IP address believed to be involved in robotic activity, an investigation into the identity, origin and owner of the IP address may be made in order to determine if the activity is legitimate or unauthorized. If an investigation reveals unauthorized robotic activity, eBay may attempt to ignore (“block”) any further requests from that IP address.¹³⁹

The problem is that circumventing attempts to block requests from an IP address is easy. A secondary aggregator can accomplish this by using proxy servers, which are software programs that route outgoing and incoming Internet traffic through a central portal.¹⁴⁰ Many organizations use such programs because they conserve system resources, and organizations typically shield their proxy servers behind a firewall so that only authorized users have access to them. Nevertheless, firewalls sometimes fail to provide complete protection, and some organizations allow public use of their proxy servers. As the *eBay* court noted, the result is that:

Outgoing requests from remote users can be routed through such unprotected proxy servers and appear to originate from the proxy server. Incoming responses are then received by the proxy server and routed to the remote user. Information requests sent through such proxy servers cannot easily be traced back to the

138. RESTATEMENT (SECOND) OF TORTS, § 218 cmt. c (1977) (emphasis added).

139. *eBay*, 100 F. Supp. 2d at 1061 (citations omitted).

140. See PageWise, *What Is a Proxy Server?* (noting possible uses of proxy servers include restricting user access to particular sites and hiding one’s own IP address from hackers), at http://allsands.com/Science/whatisaproxy_akx_gn.htm (last visited Nov. 3, 2001).

originating IP address and can be used to circumvent attempts to block queries from the originating IP address. Blocking queries from innocent third party proxy servers is both inefficient, because it creates an endless game of hide-and-seek, and potentially counterproductive, as it runs a substantial risk of blocking requests from legitimate, desirable users who use that proxy server.¹⁴¹

The "endless game of hide-and-seek" is exemplified by the eBay/Bidder's Edge dispute: "by the end of November, 1999, eBay had blocked a total of 169 IP addresses it believed [Bidder's Edge] was using to query eBay's system. [Bidder's Edge] elected to continue crawling eBay's site by using proxy servers to evade eBay's IP blocks."¹⁴² Technological barriers are less than attractive because they are ineffective, possibly block legitimate access and waste resources on a technological arms race.¹⁴³

As demonstrated by eBay's fruitless attempts to prevent Bidder's Edge's searches, Internet self-help in the form of technological barriers is ineffective. Without the self-help rationale, however, the case for finding no trespass in the "harmless intermeddling" situations is considerably weakened. When combined with the compelling political and economic reasons to grant web businesses the same control over access that brick-and-mortar businesses have, a strong reason emerges to recognize trespasses even in cases of "harmless intermeddling."

In network-effect relationships, trespass to chattels should be adapted to fit the economic and technological context of the Internet by recognizing that even a "harmless intermeddling" can be a trespass. This is not a terribly great departure from traditional trespass to chattels. The Restatement (Second) of Torts comments that:

There may, however, be situations . . . in which the value to the owner of a particular type of chattel may be impaired by dealing with it in a manner that does not affect its physical condition. Thus, the use of a toothbrush by someone else may lead a person of ordinary sensibilities to regard the article as utterly incapable of further use by him, and the wearing of an intimate article of clothing may reasonably destroy its value in his eyes. In such a case, the intermeddling is actionable even though the physical condition of the chattel is not impaired.¹⁴⁴

Bidder's Edge's use of the server does not "destroy" its value, but a reasonable business person would certainly regard a competitor's use of the server for the competitor's profit as seriously reducing its value. An

141. *eBay*, 100 F. Supp. 2d at 1061 (citations omitted).

142. *Id.* at 1062-63 (citations omitted).

143. See Trotter Hardy, *Property (and Copyright) in Cyberspace*, 1996 U. CHI. LEGAL F. 217, 217 (discussing inefficiencies of "spider patrols" in cyberspace).

144. RESTATEMENT (SECOND) OF TORTS § 218, cmt. h (1977).

adapted trespass to chattels doctrine fits well with network-effect relationships and yields the desired consequences.¹⁴⁵ As examined next, the doctrine applies equally as well in no-network-effect and deep linking relationships.

VI. TRESPASS IN NO-NETWORK-EFFECT AND LINKING RELATIONSHIPS

No-network-effect and linking relationships share two basic features. First, the secondary aggregator intentionally accesses (or, in the linking cases, intentionally and foreseeably contributes to accessing) the primary aggregator's server. Second, the access is a use of the server by another business for its purposes, and, under the adapted trespass to chattels, the access qualifies as a reduction in the condition, quality or value of the server. Consequently, the access is a trespass if it is unauthorized. Authorization is an issue of implied consent. As argued above, by connecting to the Internet and making its site accessible to the public, a website impliedly consents to access by anyone on the Internet. But what types of access fall within the scope of this implied consent and when is such consent revocable?

145. For a discussion of competing interests relevant to a trespass to chattels analysis, see *supra* notes 143-44 and accompanying text and *infra* notes 146-48 and accompanying text. This analysis shows that the court wrongly rejected Ticketmaster's trespass to chattels claim. The court rejected the claim on the ground that Ticketmaster, unlike eBay, did not potentially face multiple searches of its site from a large number of secondary aggregators. See *Ticketmaster Corp. v. Tickets.com, Inc.*, No. 99CV7654, 2000 WL 1887522, at *1-2 (C.D. Cal. Aug. 10, 2000) (exploring differences in operation of eBay and Ticketmaster). The *Ticketmaster* court, like the Bidder's Edge supporters, confused the *eBay* court's grounds for finding a trespass to chattels with its grounds for granting a preliminary injunction. For a discussion of the Bidder's Edge supporters' confusion of these analyses, see *supra* note 136. Actually, Ticketmaster's trespass to chattels claim is directly analogous to eBay's. Compare *Ticketmaster*, 2000 WL 1887522, at *4 (declaring that elements to support trespass to chattels claims not satisfied), with *eBay*, 100 F. Supp. 2d at 1069-73 (finding trespass to chattels appropriate to address harm incurred by eBay). Ticketmaster (the primary aggregator) stands in a network-effect relationship to Tickets.com (the secondary aggregator). Ticketmaster sells tickets to a wide variety of events over its website. See *Ticketmaster* (promoting breadth of events for which tickets are available for sale), at <http://www.ticketmaster.com> (last visited Nov. 3, 2000). Ticketmaster "has exclusive arrangements to sell the tickets for many of the largest entertainment and athletic events in the country." *Ticketmaster*, 2000 WL 1887522, at *1. Ticketmaster enjoys a positive network effect. A large number of ticket buyers use Ticketmaster because they expect a large number of tickets to be available there and not elsewhere. A large number of ticket sellers offer tickets through Ticketmaster because they expect a large number of buyers to use it. Like eBay, ticketmaster.com is publicly accessible and searchable, and Tickets.com exploits this fact. See *Ticketmaster*, 2000 WL 1887522, at *2 (comparing business operations of Ticketmaster with that of Tickets.com). Tickets.com actually sells tickets to some events, but the site also searches primary ticket-selling sites to aggregate information about events and to locate where tickets for those events may be purchased. See *Ticketmaster, About Us* (advertising business operating procedure), at <http://www.tickets.com/aboutus.html> (last visited Nov. 3, 2001). Tickets.com has exactly the same relationship to Ticketmaster as Bidder's Edge has to eBay.

The key to answering this question is the reasonable person standard, which in the Internet context is a normative inquiry illustrated by the duty of due care in tort law. The duty requires that one act as a reasonable person would act.¹⁴⁶ A reasonable person is one who acts in accord with a normative requirement of respect for others.¹⁴⁷ For example, one breaches this duty by driving through a school zone during recess at one hundred miles an hour, seriously risking bodily harm or death of children. Such behavior is inconsistent with the respect for others demanded by tort law. Although people do not always meet this demand, the duty of due care articulates an ideal of reasonableness toward which people should strive.

Reasonableness as a normative inquiry should also be the approach taken in the Internet context. This Article began a normative inquiry in the above discussion regarding how to balance a business' interest in controlling access against the user's interest in low-cost communication and unimpeded access to information.¹⁴⁸ If the reasonable person accepts the results of this inquiry, the doctrine of trespass to chattels produces the desired consequences. Few object to making the result depend on a normative inquiry. As Lessig emphasizes, in cyberspace

[we] stand on the edge of an era that demands we make fundamental choices about what life in this space . . . will be like. These choices will be made; there is no nature here to discover. And when they are made, the values we hold sacred will either influence our choices or be ignored.¹⁴⁹

Trespass to chattels offers a doctrinal framework in which to consider such choices.

Instances of no-network-effect and linking relationships lie along their respective benefit-harm continua. At the harm end of each continuum, the primary aggregator should be granted the right to exclude the secondary aggregator. To secure this result under an adapted trespass to chattels doctrine, the secondary aggregator's access of the primary's website must be regarded as unauthorized. The reasonable person standard provides a compelling reason to find that the primary does not impliedly consent to such access merely by connecting its website to the Internet and making it accessible to the public. By similar reasoning, the primary's consent to access should be revocable if the primary initially did consent to the secondary's access—unless binding contractual agreements exist that prevent revocation without repercussions.

146. See RESTATEMENT (SECOND) OF TORTS § 283 app. (1995) (explaining reasonable person standard).

147. See *id.* (elaborating on meaning of "reasonable person").

148. For a discussion of how to balance the web business' interest against the Internet user's interest, see *supra* notes 72-79 and accompanying text.

149. LESSIG, CODE AND OTHER LAWS OF CYBERSPACE, *supra* note 3, at 220.

At the benefit end of each continuum, the primary aggregator should not be granted the right to exclude the secondary aggregator. Regarding the secondary aggregator's access as authorized secures this result. Applying the reasonable person standard once again, the goal of preserving effective navigation of the web is a strong reason to find that by connecting its website to the Internet and making it accessible to the public, the primary impliedly consents to access by the secondary. As suggested above for the harm end of each continuum, if the reasonable person accepts this trade-off, the doctrine of trespass to chattels yields the desired result.

The same approach handles the cases that lie in the middle of the two continua. The reasonable person standard for consent balances the competing business and user interests on a case-by-case basis. Where economic and technological conditions are novel and rapidly changing, to avoid trying to generate hypothetical rulings in response to imagined facts is a much safer course. As United States Supreme Court Justice John Paul Stevens remarked, "[w]hen we follow our traditional practice of adjudicating difficult and novel constitutional questions only in concrete factual situations, the adjudications tend to be crafted with greater wisdom. Hypothetical rulings are inherently treacherous and prone to lead us into unforeseen errors" ¹⁵⁰ By applying trespass to chattels with a reasonable person standard for consent, an appropriate doctrinal context in which to avoid "hypothetical rulings" is provided.

VII. CONCLUSION

The adaptation of trespass to chattels to the Internet has significance beyond trespass issues. The application of trespass to chattels on the Internet revolves around the question of implied consent. The resolution of this question is relevant to the broader question of where and how to draw borders in cyberspace. Borders can be drawn along the lines of consent where those lines track the relevant e-commerce geography.

150. *New York v. Ferber*, 458 U.S. 747, 780-81 (1982) (Stevens, J., concurring).

